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DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

PROPOSED PICKWICK PINES MARINA INC.

YELLOW CREEK EMBAYMENT AT MILE 448.4R
ON THE TENNESSEE–TOMBIGBEE WATERWAY
PICKWICK RESERVOIR
Tishomingo County, Mississippi

TENNESSEE VALLEY AUTHORITY
(LEAD AGENCY)

U.S. ARMY CORPS OF ENGINEERS
(COOPERATING AGENCY)

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
BMP	Best Management Practice
CWA	Clean Water Act
DA	U.S. Department of the Army
dB	Decibel
etc.	Latin term *et cetera* meaning “and other things” “and so forth”
DEA	Draft Environmental Assessment
FEA	Final Environmental Assessment
FRP	Flood Risk Profile
Ibid	Abbreviation for the Latin term, *ibidem*, meaning “in the same place;” refers to the immediately preceding author or work cited
i.e.	Latin term, *id est*, meaning “that is”
LLC	Limited Liability Corporation
LOS	Level of Service
msl	Mean Sea Level
No.	Number
$PM_{2.5}$	Particulate matter with a diameter less than or equal to 2.5 micrometers
PN	Public Notice
SEA	Supplemental Environmental Assessment
SR	State Route
TCDF	Tishomingo County Development Foundation
Tenn-Tom	Tennessee-Tombigbee
TRM	Tennessee River Mile
TVA	Tennessee Valley Authority
U.S.	United States
US	U.S. Highway
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

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CHAPTER 1

1.0 PURPOSE OF AND NEED FOR ACTION

On September 15, 2005, a joint application for the construction of a commercial marina was submitted to the Tennessee Valley Authority (TVA) and the United States Department of the Army (DA) pursuant to Section 26a of the TVA Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Clean Water Act (CWA), respectively. The application was amended on February 1, 2006. The application, as amended, proposes to establish harbor limits and requests approval for a new marina with 228 slips, a dolphin, fuel dock and pump-out facility, shoreline riprap and retaining wall, boat ramp and bulkhead, dry stack storage building and dock, and approximately 3,000 cubic yards of reservoir dredging to accommodate marina construction. The development would be called the Pickwick Pines Marina and the applicant is Pickwick Pines Marina, Inc. ("Pickwick Pines"). The proposed marina would be located at Tennessee-Tombigbee (Tenn-Tom) Waterway Mile 448.4L in the Yellow Creek Embayment in Tishomingo County, Mississippi.

The marina would be part of a commercial recreation resort. This proposed use of the site was reviewed in an Environmental Assessment, *Tishomingo County Development Foundation Request for Long-Term Tenure Commercial Recreation Easement Tract XPR-460RE* (December 2000) ("2000 FEA"). TVA issued a Finding of No Significant Impact on December 11, 2000 based on the FEA. In June 2001, the TVA Board approved changing the allocation for this tract in the Pickwick Reservoir Land Management Plan to a commercial recreation use and granting TCDF an easement to construct and operate a commercial recreation facility. If TCDF fails to construct a commercial recreation facility on this property, TVA can terminate the easement. TCDF subsequently leased the property to Pickwick Pines. Under the easement and lease, plans for the resort and marina and associated land-disturbing activities must be approved by TVA. This Supplemental Environmental Assessment or SEA considers the potential environmental impacts associated with constructing and operating the proposed marina.

A Joint Public Notice (PN) No. 05-87-A with TVA and the State of Mississippi was issued by the U.S. Army Corps of Engineers (USACE) on February 17, 2006 (Appendix A) for the application, as amended. This provides a location map for the marina (PN No. 05-87-A, sheet 1), the disposal location for the proposed dredge material (sheet 6), and a more detailed description of the proposed development including design drawings of the planned facilities.

In addition to requested harbor limits (PN No. 05-87-A, sheet 3), the application includes the following proposed water-based facilities:

- Proposed 228-slip marina (lakeward extension 772 feet) – PN No. 05-87-A, sheet 3 (project layout) and sheet 4 (marina layout)
- Dolphin located at marina southeast corner
- 1,800 linear foot shoreline riprap and retaining wall
- Fuel dock and pump-out facilities with permitted buoys for a 50-foot "no-wake" zone – PN No. 05-87-A, sheet 4

- Dry stack bulkhead (30 feet x 40 feet x 14 inches) a service ramp (12 feet wide) including 155 cubic yards of concrete fill, dry stack building (110 feet x 200 feet), and a dry stack dock (6 feet x 30 feet) – PN No. 05-87-A, sheet 5

- Dredging of two areas – Area 1 (cove area near dry stack dock), approximately 9,000 square feet, and Area 2 (near restaurant and connecting deck), approximately 9,959 square feet. The total dredge is estimated to be approximately 3,000 cubic yards – PN No. 05-87-A, sheet 6.

The scope of this SEA review includes the proposed 228-slip marina and water-based facilities. The environmental commitments identified in the 2000 FEA that apply to construction of this marina are set forth in Section 6.0 of this SEA.

1.1. The Decision

TVA approval of the plans for the marina and associated land-disturbing activities is required under the terms of the easement and lease of the property. In addition, Section 26a of the TVA Act requires TVA authorization for any water-use facilities and shoreline alterations in and along the Tennessee River and its tributaries. Section 10 of the Rivers and Harbors Act of 1899 prohibits the alteration or obstruction of any navigable waters of the United States unless authorized by USACE. Discharge of dredged or fill materials into waters of the United States is prohibited in accordance with the Clean Water Act, Section 301, unless authorized by USACE pursuant to Section 404. A TVA Section 26a permit and USACE Section 10 and 404 permits are required for the proposed marina. TVA and USACE must decide whether to issue permits to the proposal (and with what, if any, conditions) or deny the applicant's request.

1.2. Other Pertinent Environmental Reviews or Documentation

Final Programmatic Environmental Impact Statement, Reservoir Operations Study (February 2004). This FEIS was prepared in cooperation with USACE and the U.S. Fish and Wildlife Service (USFWS). It examined proposed changes to TVA's policy for the operation of its reservoir system, including Pickwick Reservoir. This included a detailed evaluation of the recreational use of TVA reservoirs and the impacts associated with such use. On May 19, 2004, the TVA Board decided to adjust TVA's reservoir system operations policy to enhance recreational opportunities.

1.3. The Scoping Process

The agencies earlier issued PN No. 05-87 on October 19, 2005 for the application before it was amended. Comments on the proposal were solicited from the public; federal, state, and local agencies and officials; Indian tribes; and other interested parties to help the agencies consider and evaluate impacts of the proposed activity. The public comment period ended for PN No. 05-87 on November 16, 2005. Comments were received from USFWS, Yellow Creek Port, Ergon terminal, and approximately 40 property owners who own homes on Yellow Creek Embayment near the proposed development.

The USFWS response dated November 16, 2005, stated that based on its records, there are no federally listed or proposed endangered or threatened species that occur within the project area and that the requirements of Section 7c of the Endangered Species Act of

1973, as amended, were fulfilled. No significant adverse effects to fish and wildlife, their habitats, and human uses thereof are expected to result from the proposed development.

A substantial number of comments during the first public notice (PN No. 05-87) review period identified as concerns recreational boating congestion, the proposed size, number of slips and lakeward extension of the proposed marina, location of proposed fueling dock, and potential navigational risks. The original marina design contemplated approximately 400 slips, a lake ward extent of 1,600 feet with a distance of 1,475 feet to the Ergon terminal, and the fuel dock and marina entrance on the south side. The navigation community commented that this arrangement posed serious risks for both towboat operators serving the Ergon terminal and the marina itself. Specifically at issue was the large profile of the marina in the embayment restricting maneuverability of the tows, the proximity of the marina to the terminal in the event of a wind-blown tow, and the location of the entrance and fuel dock on the side closest to the terminal. Commenters also asserted that increased recreational boat traffic resulting from the location of the marina entrance and fuel dock, posed safety and security issues for the terminal and the added potential of an explosion in the event of a barge colliding with the fuel dock.

TVA and USACE navigation specialists, the U.S. Coast Guard, and local tow experts met to discuss these navigation safety concerns and possible ways of addressing them on December 6, 2005. As a result, the applicant revised the proposed marina design including relocating some of the associated structures with an overall smaller size (footprint) and a shorter lake ward extension. The new marina design was submitted to TVA and USACE on February 1, 2006.

Because of the extent of design revision for the proposed marina, a second joint PN No. 05-87-A was issued by the agencies on February 17, 2006. The comment period for this second notice ended on March 18, 2006. Approximately 83 comment letters were received in response to the second notice. Two petitions with 34 names were also received. Common concerns expressed were that the proposed marina would cause additional boating traffic and congestion and safety concerns in the embayment. Environmental concerns related to water quality; fish and wildlife, fuel spills and trash, damage to private property from boat wakes, and the necessity for completing a thorough environmental review were also expressed. The applicant, Pickwick Pines, prepared and submitted a response to these public comments and is provided in Appendix C.

The USFWS responded to the USACE's second public notice (PN No. 05-87-A) by letter dated March 20, 2006, again stating that based on its records, there are no federally listed or proposed endangered or threatened species that occur within the project area, and that the requirements of Section 7c of the Endangered Species Act of 1973, as amended, were fulfilled. USFWS suggested that the dredged material be placed in an upland location outside the 100-year floodplain. Based on navigation and safety concerns, Ergon terminal objected to the marina proposal by letter dated March 18, 2006.

1.4. Necessary Federal Permits or Licenses

In addition to the Section 26a permit from TVA and Section 10 and 404 permits from USACE, a water quality certification from the State of Mississippi under Section 401 of the CWA is required. National Pollutant Discharge Elimination System storm water construction permits may also be required if activities involve soil disturbance greater than 1 acre.

CHAPTER 2

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This chapter discusses alternatives to the proposed action. Because it was earlier determined that Tract XPR-460RE is a suitable location for a commercial recreation facility, including a marina, based on the 2000 FEA, the only alternative to approving the proposed marina as now designed (and what, if any, conditions to impose on these approvals) is to not approve the marina or the No Action Alternative.

2.1. The No Action Alternative

Under the No Action Alternative, the marina as proposed by Pickwick Pines would not be constructed. However, this would not preclude building a differently-designed marina on Tract XPR-460RE. This tract has been allocated for commercial recreation use and TVA's grant of easement to TCDF requires appropriately-designed commercial recreation facilities to be constructed on this tract subject to loss of the easement.

2.2. The Proposed Build Marina Alternative

Under the Proposed Build Marina Alternative, the design of the marina proposed by Pickwick Pines would be approved and Pickwick Pines would be issued permits for the proposed harbor limits and construction of a marina with 228 slips, dolphin, fuel dock and pump-out facility, shoreline riprap and retaining wall, boat ramp and bulkhead, dry stack storage building and dock, and approximately 3,000 cubic yards of dredging.

2.3. Comparison of Alternatives

The following major sections were evaluated under the No Action and the Proposed Build Marina Alternatives:

- Terrestrial Environment (Air Quality, Flora, and Fauna)
- Aquatic Environment (Water Quality, Aquatic Ecology, Wetlands, and Floodplains)
- Human Environment (Socioeconomic Environment, Land Use, Cultural/Historic Resources, Visual Resource, Navigation, Recreation, Transportation, and Noise)
- Natural Areas

No Action

Under the No Action Alternative, the proposed Pickwick Pines Marina would not be built. It is likely that there would be no impacts to environmental resources from construction or operation of a new marina at this location for some period of time. There also would be no economic benefits generated to Tishomingo County, Mississippi, from the proposed marina. However, because this location has already been determined to be suitable for commercial recreation facilities, it is also likely that such facilities will be constructed on the site some time in the future with impacts similar to those described in this SEA.

Proposed Build Marina Alternative

Under the Proposed Build Marina Alternative, construction and operation of the proposed Pickwick Pines Marina are not expected to result in significant environmental impacts. No impacts to threatened and endangered species, cultural and historic resources, or wetlands have been identified. Little or no change in air quality is expected. Shoreline alterations including soil disturbances, removal of tree canopy, and any herbicide usage required to construct the marina would have insignificant impacts to flora and fauna with adherence to required Best Management Practices (BMPs). Vegetation removal would be in accordance with environmental requirements, which are expected to reduce water quality and aquatic ecology impacts to insignificant levels. Floodplain impacts would be adverted with adherence to required commitments. The marina would be constructed in accordance with TVA Clean Marina Standards including a pump-out system to handle sanitary wastes. A fuel-dispensing facility would be required to operate in accordance with an approved spill prevention plan. Visual protection requirements would preclude a significant change from the current condition. The marina has been designed to avert any significant navigation concerns. Recreational boating traffic is expected to increase but this should not have significant impacts on an individual or cumulative basis. The noise levels associated with this increase are not expected to be significant compared to existing conditions. An increase in traffic on the adjacent roadway would be generated but is expected to be insignificant. The development is expected to result in positive effects on the local economy both during construction and operation by increasing employment and income in the local area.

2.4. The Preferred Alternative

TVA has selected approval of the proposed marina with its modified design and subject to identified commitments to enhance environmental protections as its preferred alternative. USACE is precluded from identifying a preferred alternative at this stage of its permitting process.

CHAPTER 3

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1. Introduction

As previously stated, in December 2000, TVA completed an FEA that assessed the potential environmental impacts associated with changing the land-use allocation for the 31-acre TVA tract (XPR-460RE) and making it available through a long-term easement to the TCDF for commercial recreation purposes. A conceptual plan for a commercial recreation facility was used to evaluate potential impacts in the 2000 FEA. This included construction of a convention center, rental cabins, and a 100-slip marina. No significant environmental impacts were identified.

The agencies have now received a proposed marina design. Responding primarily to concerns about navigation risks, an earlier proposed design has already been modified by Pickwick Pines to address those concerns. This chapter provides supplemental information and additional analyses based on the modified design.

3.2. Terrestrial Environment

3.2.1 Air Quality

Air Quality was previously discussed in Section 3.2.1 of the 2000 FEA. Subsequent to completion of the 2000 FEA, the U.S. Environmental Protection Agency is considering lowering the 24-hour $PM_{2.5}$ standards. If the 24-hour $PM_{2.5}$ standard is lowered significantly, and this is not expected at this time, additional areas, including some rural areas, may no longer be in compliance with the revised, more stringent standard (these would become “nonattainment” areas) and additional measures would have to be taken to reduce emissions of pollutants that contribute to $PM_{2.5}$ levels in these areas.

Under the No Action Alternative, a marina would not be built at this time and, there would be no impact on $PM_{2.5}$ levels. However, under the Proposed Build Marina Alternative, emissions associated with construction of the marina and its subsequent operation are expected to be relatively trivial and would have little or no effect on regional air quality including $PM_{2.5}$ levels. If the $PM_{2.5}$ standard is lowered, more attention may be given to smaller sources of fuel combustion such as internal combustion engines and wood-fired heating devices, but these would likely be addressed through new equipment standards.

3.2.2 Flora

Flora was previously discussed in Section 3.2.2 of the 2000 FEA and the description of the existing flora and remains accurate with two exceptions. First, the 2000 FEA states that no federally listed plant species are known from the county, that 79 state-listed plant species occur in the county, and 55 such species occur within 5 miles of the project site. Based on current data in the TVA heritage database, no federally listed species are known from the county, but one candidate plant species for federal listing, monkey-face orchid (*Platanthera integrilabia*), occurs in the county within 5 miles of the sites. Currently, 93 state-listed

species are known from Tishomingo County, Mississippi, and 59 such species are known from within 5 miles of the project. No listed or candidate plant species occur on or immediately adjacent to the project tract.

The second change from the 2000 FEA involves the addition of the disposal area associated with the Proposed Build Marina Alternative that has now been identified. The subject area is an excavated site that is more than 90 percent bare dirt. The vegetation on the site is representative of disturbed areas in the region. Broom sedge (*Andropogon virginicus*), loblolly pine (*Pinus taeda*), shortleaf pine (*Pinus echinata*), sweetgum, (*Liquidambar styraciflua*), and mimosa (*Albizia julibrissin*) occur in scattered areas. No federally or state-listed or candidate plant species occur on or immediately adjacent to the proposed disposal area. In addition, no uncommon plant communities occur on or near the project lands.

Under the No Action Alternative, the dredge disposal area would remain in its current condition and, barring additional disturbance, would undergo natural re-vegetation. No significant impacts are anticipated to the general flora of the region or to federally or state-listed species from adopting this alternative for the time being.

Under the Proposed Build Marina Alternative, dredge material would be deposited in the identified disposal area. Because the existing vegetation of the main tract and the disposal area is relatively abundant in the vicinity and no uncommon communities occur on the tract, no significant impacts to state or regional flora are expected. Because no federally or state-listed species occur on the tracts, no impacts to such species are expected.

3.2.3 Fauna

Fauna was previously discussed in Section 3.2.3 of the 2000 FEA and the discussion remains accurate. A 2006 review of the TVA Natural Heritage database indicated no new listed animal species. The proposed project area consists of riparian shoreline and open water habitat. Wildlife in this habitat is abundant locally and regionally. The proposed spoil area has been highly modified and offers little wildlife habitat. Under the No Action Alternative, the proposed marina would not be built, property would remain in its current condition, and there would be no impacts to wildlife on the parcel for the time period. Under the Proposed Build Marina Alternative, portions of forested areas on the riparian zone would be removed and the terrain modified. Because of the regional abundance of the wildlife found on this parcel, impacts from the proposed project would not result in significant adverse impacts to terrestrial animal communities. There would be no impacts to threatened or endangered species of wildlife.

3.3 Aquatic Environment

3.3.1 Water Quality

Water Quality was previously discussed in Section 3.3.1 of the 2000 FEA and remains accurate; however it is supplemented with the addition of the following information from the 2004 TVA reservoir monitoring results and the Mississippi 2004 305(b) Water Quality Assessment Report Addendum. Both reaffirmed the determination in the 2000 FEA that overall ecological conditions in Pickwick Reservoir are good, and the TVA report stated that it had the highest score to date. Most indicators used to evaluate ecological conditions rated good or fair at all locations. Fecal coliform samples collected at 10 locations in the

reservoir were within the state water quality criteria. The screening assessment conducted in 1999 in the Yellow Creek Embayment has not been updated. In 1999, the assessed embayment sites were highly productive and could be considered eutrophic as indicated by high chlorophyll concentrations.

The addition of dredging and disposal of the dredged material at an off-site location was not previously discussed in the 2000 FEA. The lake bottom material generally consists of mud/sediment and gravel. The proposed activity would remove the existing bottom substrate from about 18,950 square feet in front of the tract, which would expose new substrate of likely the same composition. Approximately 3,000 cubic yards of accumulated lake bottom material would be removed, placed and stabilized in an upland disposal site. The proposed dredge disposal area is an excavated site, which is more than 90 percent bare dirt. This area is not located adjacent to any stream or water body.

Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no impacts to water quality at this time. Under the Proposed Build Marina Alternative, the proposed Pickwick Pines Marina would be built adjacent to Tract XPR-460RE on Yellow Creek Embayment. The marina structures and subsequent boating activity would have no adverse effects to circulation in section of the embayment. Soil disturbances associated with access roads or other construction activities can cause erosion and sedimentation, and removal of the tree canopy along the shoreline can result in increased water temperatures and adverse impacts to water quality. The improper use of herbicides to control vegetation could also result in runoff and subsequent aquatic impacts. Impacts to water quality may also result in potential impacts to the aquatic biota. Appropriate precautions (see Section 6.0, Commitments) would be taken to minimize these potential impacts.

Fueling and sewage pump-out facilities at the marina can potentially result in leaks or spills into the lake. In addition to state and federal regulations to control potential receiving water impacts, TVA would require that all sewage pump-out facilities and appurtenances have spill-proof connections, no overflow piping, and failure alarms. TVA would require that underground storage tanks containing regulated substances such as petroleum products have secondary containment, anchorage to prevent floating during flooding, and a Spill Prevention, Control, and Countermeasures plan. Aboveground storage tanks would be required to be installed and maintained in compliance with applicable requirements. The proposed dredging would be done in the dry behind cofferdams in accordance with commitments listed in Section 6. All appropriate BMPs to minimize erosion or runoff of contaminated water would be utilized at both the dredge site and the disposal site. With the application of the measures identified in Section 6.0, potential effects to water quality would be insignificant. Based on the pollution controls to be employed and the anticipated level of recreational activity, no significant change in existing water quality conditions is expected.

3.3.2 Aquatic Ecology

Aquatic Ecology was previously discussed in Section 3.3.2 of the 2000 FEA, and the discussion remains accurate. A 2006 review of the TVA Natural Heritage database indicated no new listed aquatic species. Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no impacts to the aquatic ecology at this time. Under the Proposed Build Marina Alternative, the Pickwick Pines Marina would be constructed with the associated shoreline alterations to accommodate the 228-slip marina. As previously discussed in Section 3.3.1, development activities have a potential to

impact the local receiving water body's water quality in the area and therefore also may potentially impact the aquatic biota and ecology. Because TVA would require the use of BMPs as described in TVA's standard 26a permit conditions (see Section 6.0, Commitments), potential impacts to the aquatic community would be insignificant.

The dredge excavation work would have temporary impacts on the aquatic resources with the resulting disturbances of benthic organisms within the work area. However, over a period of time, benthic organisms will invade the excavated area and may provide a more diverse population as a result of removal of silt material. Benthic recruitment into the area would come from adjacent undisturbed areas and from larval drift.

3.3.3 Wetlands

Wetlands were previously discussed in Section 3.3.3 of the 2000 FEA. A review of the 2000 FEA indicates there would be no change in the initial wetlands analysis included in the Affected Environment and Environmental Consequences Section. The dredge disposal area has been previously disturbed and contains no wetlands.

3.3.4 Floodplains

Floodplains were previously discussed in Section 3.3.4 of the 2000 FEA and remain accurate. Under the No Action Alternative, there would be no construction within the 100-year floodplain at this time and therefore, no floodplain impacts. Under the Proposed Build Marina Alternative, the following facilities would be constructed: a dry boat storage building, floating villa dock, floating boat slips, floating fuel dock, fuel storage tanks, fixed dock, boat launching ramp, riprap, and bulkhead. Two reservoir areas would also be dredged to maintain water depth at low-pool elevations.

The floating villa dock, floating boat slips, floating fuel dock, fixed dock, boat launching ramp, bulkhead, riprap, and dredging would be located within the 100-year floodplain. Consistent with Executive Order 11988, these are considered repetitive actions in the floodplain that should result in minor impacts provided the excavated material is spoiled outside of the floodplain. According to the plans, all excavated material would be spoiled on private land above the TVA FRP elevation. The fuel storage tanks would be located on existing ground outside of the 100-year floodplain and above the FRP elevation. The project would be consistent with the TVA *Flood Control Storage Loss Guideline* because there would be less than 1 acre-foot of displaced flood control storage.

To help ensure the Proposed Build Marina Alternative action would have no adverse effect on floodplains and flood control, protective commitments have been included in Section 6.0.

3.4 Human Environment

3.4.1 Socioeconomic Environment

The socioeconomic environment was previously discussed in Section 3.4.1 of the 2000 FEA and remains accurate. However, more recent data are available and are discussed in this section. Tishomingo County is a rural county located in the northeast corner of Mississippi near the Alabama and Tennessee borders. The county population is estimated by the U.S. Census Bureau to be 19,202 as of 2005. Tishomingo County has been growing slowly since 1990, after experiencing a decline in population during the 1980s. In 2005, the

county had a labor force of 8,330, with average unemployment of 730 or 8.8 percent of the labor force; this rate is higher than both the state rate of 7.8 percent and the national rate of 5.1 percent. This follows a pattern of recent years, with Tishomingo County having higher rates than the state, which in turn has had higher rates than the nation. The county is much more dependent on manufacturing than the state as a whole or the nation with 28.7 percent of its workers employed in manufacturing in 2003, compared to 12.5 percent in the state and 9.0 percent in the nation. It is less dependent on government and on services and similar activities such as transportation, finance, and real estate. Government employment in the county in 2003 was 12.7 percent of the total, compared to 19.1 percent in the state and 14.2 percent nationally. Services and similar activities accounted for slightly more than one-third of employment in the county, but 44 percent in the state and 54 percent nationally. Per capita personal income in 2003 was $19,236, about 82 percent of the state average of $23,466 and only 61 percent of the national average of $31,472.

According to 2004 estimates by the U.S. Census Bureau, 6.6 percent of the county's population is minority (nonwhite or white Hispanic), which is well below the state's 40.1 percent and the nation's 32.6 percent minority. The proposed project would be located in Census Tract 9501, Block Group 1, Blocks 1052 and 1053. The Census Tract had an estimated minority population in 2000 of 48 persons, 1.5 percent of the total population. Block 1052 had no inhabitants. The population of Block 1053 was 8, none of whom were minorities. The poverty rate in the Census Tract, according to the 2000 Census of Population, is 9.4 percent, lower than the county level of 14.1 percent, the state level of 19.9 percent, and the national level of 12.4. In Block Group 1, the poverty level was 10.2 percent, slightly higher than in the Census Tract, but lower than the county, state, and national levels. Poverty data are not available at the Block level.

The dredge spoil area is located in Tishomingo County, Census Tract 9501, Block 2033, near Blocks 2012 and 2013. Population is very sparse in these areas; according to the 2000 Census of Population, Block 2033 had a total population of 18; Block 2012, north of the site, had no population; and Block 2013, west of the site, a population of 16. There were no minorities living in these areas. Block Group 2, which includes Blocks 2033, 2012, and 2013, along with a number of others, had a poverty rate of 16.l percent, lower than the state average but higher than the national average.

Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no socioeconomic or environmental justice impacts at this time. Under the Proposed Build Marina Alternative commercial recreational facilities would be developed including a 228-slip commercial marina and related facilities. This development would result in positive effects on the local economy both during construction and in operation by increasing employment and income in the local area. Facilities of this nature, if well developed and properly maintained, could enhance the attractiveness of the area and be an important element in economic development for the area.

Facilities of this type, developed and operated following the appropriate standards and guidelines, would be likely to increase property values in the area. The overall impact is likely to be small, although some individual properties could increase more in value if additional recreation-related development is stimulated by this action.

Environmental Justice
As discussed above, the project area has a very small minority population and a relatively low poverty rate. No residences would be directly affected by the proposal, and there is no indication that any of the actions would disproportionately impact any specific population group. Therefore, there would be no disproportionate impacts to minority or low-income populations.

3.4.2 Land Use

Land Use was previously discussed in Section 3.4.2 of the 2000 FEA and remains accurate.

In June 2001, the TVA Board of Directors approved a 40-year Term Recreational Easement to TCDF over TVA Tract XPR-460RE. This tract was also consequently allocated for Developed Recreation in the TVA 2002 *Pickwick Reservoir Land Management Plan*. Under the easement, TCDF is required to develop the tract for public commercial recreational purposes, including a marina, restaurant, hotel, lodge, cabins, and convention center. TCDF has leased the property to Pickwick Pines Resort for development of the property and the marina.

Existing allocated uses of TVA lands for Yellow Creek Embayment area and the associated shoreline miles are presented in Table 3-1 below.

Table 3-1. Existing Shoreline Land Uses for Yellow Creek Embayment

Land Use	Acres of TVA Land	Miles of Shoreline
Zone 3 – Sensitive Resource Management	67.77	2.6
Zone 4 – Natural Resource Conservation	456.65	16.1
Zone 5 – Industrial/Commercial	319.67	7.9
Zone 6 – Developed Recreation	91.72	2.4
Zone 7 – Residential Access	100.91	11.7

Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no change to the existing environment at this time. As discussed above, a commercial recreational easement was granted over the tract, and there would be no change to the current land-use allocation. The easement permits commercial recreation facilities on the tract including construction of a convention center, rental cabins, and marina. Under the Proposed Build Marina Alternative, the proposed 228-slip marina would be built, and a marina is consistent with the current land-use allocation of the tract. The proposed Pickwick Pines Marina would also be compatible with local land uses in Yellow Creek Embayment. The current use of the site identified as the location for the dredge spoil is consistent with using the site for this purpose. In light of the above, impacts are expected to be insignificant.

3.4.3 Cultural / Historic Resources

Cultural/Historic Resources were previously discussed in Section 3.4.3 of the 2000 FEA and that analysis remains accurate. The marina proposal would not affect any archeological/historic properties listed on or eligible for listing on the National Register of Historic Places. The identified dredge disposal area has been highly disturbed already and any cultural resources that may have been located would have been destroyed already.

3.4.4 Visual Resources

Visual Resources were previously discussed in Section 3.4.4 of the 2000 FEA. The following provides additional information.

Visual resources are evaluated based on existing landscape character, distances of available views, sensitivity of viewing points, human perceptions of landscape beauty/sense of place (scenic attractiveness), and the degree of visual unity and wholeness of the natural landscape in the course of human alteration (scenic integrity).

The proposed marina development area is predominantly rural in character, with small town centers in Iuka, Mississippi, to the south along Mississippi State Route (SR) 25 and Counce, Tennessee, to the north along Tennessee SR 57. The area landward of the proposed marina location rises precipitously above the reservoir over eroded shoreline and maintained turf banks where mature hardwoods provide overstory shade to two hills divided by a ravine with steeply sloping sides. Vegetation thickens toward the perimeter of the property to the north and south, while the majority of understory vegetation has been cleared from the center of the property and along the shoreline. The land is bounded to the west by SR 25/SR 57, which is a primary north/south travelway. The steeply sloping topography continues upland and across SR 25 where several small cabins are set about the length of the roadway fronting the resort property.

Motorists traveling SR 25 have brief views through the site to the reservoir and the opposing shoreline beyond. Views of the site from the west and south are generally restricted to the foreground-viewing distance (within 0.5 mile from the observer) due to existing topography and vegetation. Residents along the southern portion of the Yellow Creek cabin sites, located immediately to the north, have direct views of the property across a shallow embayment.

Views from the north and east over the body of the embayment extend to the middleground-viewing distance (0.5 mile to 4 miles from the observer). From positions along the northeastern shoreline, residents in the State Line, Red Sulphur Springs, and Tishomingo Lakeside residential developments, as well as recreational lake users, have views of the site amid the Aqua Yacht Harbor. This is one of the nation's largest inland marinas, with over 350 berths located slightly downstream, and a barge terminal, storage tanks, and personnel and equipment buildings operated by companies located in the Yellow Creek Inland Port, which is slightly upstream.

The landscape character within this section of Pickwick Reservoir is predominated by shoreline development, including facilities for private water use, public water use, marinas, and industry. The existing scenic attractiveness is common and the scenic integrity ranges from moderate to low.

Consequences of the impacts to visual resources are examined based on changes between the existing landscape and the landscape character after alteration, identifying changes in the landscape character based on commonly held perceptions of landscape beauty and the aesthetic sense of place. The impacts to visual resources are described in the same manner as the existing visual resources, from south to north along the proposed route.

Under the No Action Alternative, the proposed marina facilities would not be developed, and the shoreline would remain in its present condition at this time. Development landward of the shoreline would continue as described in the 2000 FEA (Appendix B). Erosion of the shoreline area would continue at a similar or increased rate, depending on the activities occurring to the interior of the property. However, it is probable that this shoreline area would be stabilized at some point in the future to prevent bank failure, either through vegetative or mechanical means. This stabilization activity would likely occur during the winter drawdown period when the number and duration of views would generally be quite low. The scenic attractiveness would remain common, and the scenic integrity would remain moderate to low.

Under the Proposed Build Marina Alternative, TVA would approve the request for construction of marina facilities based on the proposed 228-slip marina design provided by the applicant. TVA would require the design of the proposed water-use facilities to be open on all sides and their colors to be dark and unobtrusive.

Motorists traveling SR 25 would have views of the proposed marina facilities briefly and through the existing mature vegetation on the site. These views would change and portions of the marina would likely be screened from view by land-based structures and amenities to be constructed in the future. These structures and amenities would remain subject to the commitments included in Section 6.0. Residents in the Yellow Creek cabin sites would have views of the proposed marina facilities in the foreground-viewing distance, and in context with the existing barge terminal and industrial operations of the Yellow Creek Port, which are currently visible to the southeast.

Residents to the north and east along the opposing shoreline and reservoir users would have views of the proposed marina from the middleground- and foreground-viewing distance. From positions in the middleground-viewing distance, the proposed marina would be viewed in context with facilities at both the Yellow Creek Port and the Aqua Yacht Harbor. As proposed, the marina facilities to be constructed would be similar in design and construction to those currently visible less than a mile away to the north. The addition of an approximately 228-slip marina and ancillary facilities, including dry storage and a launching ramp, would result in an incremental addition in the discernable number of watercraft in the Yellow Creek Embayment. This area of Pickwick Reservoir is home to two additional marinas, as well as the northernmost access point for the Tennessee Tombigbee Waterway, connecting the Gulf of Mexico with America’s inland waterways and reservoirs; therefore, the increase in the discernable amount of boating traffic would remain in context with the surrounding usage patterns and existing landscape character.

As a future element of the proposed resort and marina development, land-based structures and amenities would be constructed to the interior of the property. The potential impacts to existing visual resources would depend to a great extent on the proper integration of development with the natural environment through proper site planning and context

sensitive architectural design. Commitments shown in Section 6.0 would be included to reduce the discernable impacts to a level of insignificance.

Overall, the impacts to visual resources associated with the development, construction, and operation of the proposed marina facilities would be insignificant provided the commitments included in Section 6.0 are followed.

3.4.5 Navigation

Navigation was previously discussed in Section 3.4.5 of the 2000 FEA based on conceptual development plans. This section addresses the potential navigation impacts associated with the proposed Pickwick Pines Marina as designed. To provide context, background information also is provided.

The location for the proposed marina is adjacent to TVA Tract XPR-460RE on the western shoreline of the Yellow Creek Embayment. The embayment was created by the impoundment of the Tennessee River to create Pickwick Reservoir. Yellow Creek is a tributary of the Tennessee River and enters the system at Tennessee River Mile (TRM) 215. Yellow Creek also serves as the northern terminus of the Tenn-Tom Waterway, a man-made waterway connecting the Tennessee River and the Tombigbee River, links the Port of Mobile and the Gulf of Mexico with the National Inland Waterway System, and provides an alternative to the Mississippi River for waterborne commerce. The proposed Pickwick Pines Marina would be associated with Tenn-Tom Waterway Mile 448.4 on the right descending bank.

Both the Tennessee Waterway (authorized by the TVA Act of 1933) and the Tenn-Tom Waterway (authorized by the River and Harbor Act of 1948) were developed by the federal government for the purpose of facilitating interstate commerce and are important segments of the 12,000 mile National Inland Waterway System. According to the USACE Waterborne Commerce Statistics Center electronic database, the Tennessee River Waterway supports about 50 million tons of commodity traffic each year, about 90 percent of which either originates or terminates on other river systems. Almost 7 million tons of commodities are moved on the Tenn-Tom Waterway annually, roughly 4 million tons of which pass through Yellow Creek to or from the Tennessee River.

Depths of the Yellow Creek Embayment are sufficient to support commercial navigation averaging 20-30 feet at normal summer pool elevation of 414 feet above msl. Daybeacons mark the upper (Tenn-Tom Waterway Mile 448.7) and lower (Tenn-Tom Waterway Mile 448.4) ends of the island at the entrance to the embayment. There are no aids to navigation in the Yellow Creek Embayment.

Strategically located at the confluence of these two waterways, the Yellow Creek Embayment is the home of the Yellow Creek State Inland Port, a public, general commodities terminal, and the private Ergon Inc. asphalt terminal. The Ergon terminal is immediately to the south of Tract XPR-460RE, the site of the proposed Pickwick Pines Marina. Yellow Creek Port terminal facilities are adjacent to the Ergon terminal. Yellow Creek Port and the Ergon terminal handled a combined total of about 300,000 tons of commodities on some 200 barges in 2004.

Like most terminals on the Tennessee River system, Ergon and Yellow Creek Port are outside of the actual navigation channel, or shipping lane. Towboats approaching the

Yellow Creek Port docks either from the south (Tenn-Tom Waterway) or the north (Tennessee River) do so by turning westward at Tenn-Tom Waterway Mile 448.2 on the south side of the island and do not enter the large embayment area. Fleeting facilities for Yellow Creek Port are located on the south side of the large island, which separates the Tenn-Tom Waterway from the Yellow Creek Embayment.

Towboats approaching the Ergon terminal typically come from the Tennessee River heading south on the Tenn-Tom and enter the large embayment from the north side of the island. Entering the embayment from the north side of the island rather than from the south side allows these longer tows (a group of barges pushed by a towboat) to avoid both a sharp right turn and any fleeting activities for the Yellow Creek Port facilities. Liquid tank barges, such as those delivering products to the Ergon terminal, are typically 295 feet long and 55 feet wide. Tows serving this terminal are usually one or two barges in length (with towboat, 400 feet to 700 feet long), but there have been as many as three barges delivered to Ergon at one time (with towboat, 1,000 feet long).

Because of its location immediately adjacent to the proposed development site, and the size and shape of the liquid tank barge tows, the Ergon terminal is the most likely commercial navigation operation to be impacted by proximity to the marina. The lakeward extent of the marina (distance from the shoreline that the marina extends into the embayment) and the distance to the Ergon dock from the marina structure are key components to ensuring safe navigation operations on the approach with a full barge (or barges), and leaving the terminal with an empty barge (or barges).

Under the No Action Alternative, the proposed Pickwick Pines Marina would not be constructed in its current configuration and, therefore, there would be no impact to existing navigation condition at this time.

Under the Proposed Build Marina Alternative, the proposed marina and associated facilities would be built. The marina would extend 772 feet into the embayment on the south end, the side adjacent to the Ergon terminal. The embayment is about 3,000 feet wide as measured from the shoreline of Tract XPR-460RE to the island (see Figure 3-1.). With the marina in place, there would be roughly 2,200 feet between the marina and the island, and there would be a minimum of 1,620 feet between the marina and the Ergon terminal. This is sufficient room for a loaded, inbound tow to maneuver safely to the terminal from the main channel via either the north or south side of the island.

The large, open embayment at Yellow Creek is known for windy conditions. Liquid tank barges sit about 13 feet out of the water when empty and can act like sails in windy conditions. Under the right conditions, the wind may catch the end of the empty tow while it is pulling away from the terminal and blow it several hundreds of feet sideways before the pilot is able to gain enough forward momentum to regain control. (The wind-blown tow scenario typically happens when towboats are slowing to or accelerating from a dead stop. Because of the flow of water when at speed and the design of the hull, towboat pilots have the greatest control over their tows when they are underway.) Under the proposed marina design, if a wind-blown tow swings away from the Ergon terminal on departure, it is unlikely to strike the marina. TVA would also require that the marina construct and maintain a lighted dolphin structure on the outside of the southeast corner of the marina, see Appendix D. Dolphins are often used to protect marine structures that are not designed to accommodate the weight of a barge or tow. (The dolphin would also provide some measure of protection in the event of a break-away barge.) Thus, there is sufficient room

and sufficient additional protection to the marina for the safe departure of empty tows from the terminal.

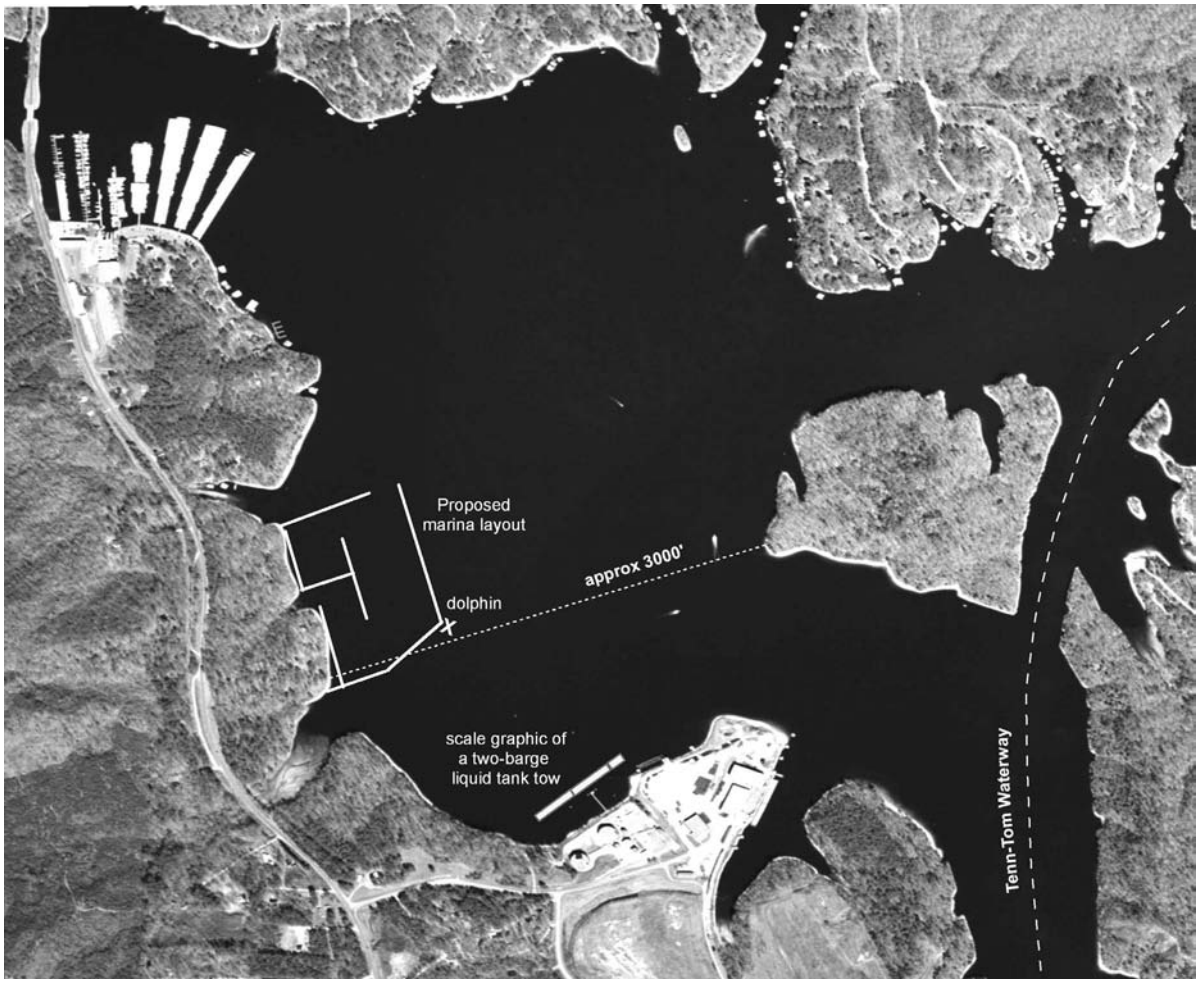

Figure 3-1. Proposed Marina Layout (Scale Drawing)

The entrance to the marina and fuel dock as proposed are to be located on the north side of the marina to help reduce the volume of recreational traffic in the vicinity of terminal operations. This location would limit the potential for an accident involving a tow and a recreation vessel or a tow impacting the fuel dock. Site security is a serious concern for the navigation industry in the post-9/11 environment (the Maritime Transportation Security Act of 2002 requires that all terminals have a U.S. Coast Guard-approved facility security plan and that all towboats have a vessel security plan).

In any marine environment, commercial and private dock facilities (and other shoreline) will be subjected to potential wave damage from the wakes of passing vessels. In this particular case, proximity to the Ergon terminal means that in addition to the waves generated by passing vessels, some turbulence in the water near the marina may be generated by the towboats moored at the terminal. It is standard practice for both TVA and the USACE to advise permit recipients in writing that any structure built on a waterway used by recreation or commercial vessels (or any boat moored at that structure) may be subject

to wave damage from passing vessels. In addition, TVA would require that a wave attenuator, or breakwater, be incorporated into the marina structure to mitigate the effect of wakes from passing vessels and propeller wash from the adjacent commercial terminal.

Approved harbor limits are established by TVA permit for a defined area that surrounds a marina. This is a permitted activity because harbor limits are usually defined by buoys anchored to the reservoir bottom. Typically, harbor limits are used to establish a “no-wake” zone in the vicinity of a marina, which helps to reduce the problems associated with wave wash. They are also used to define an area into which expansion of a marina may later occur. TVA would restrict the harbor limits of the proposed Pickwick Pines Marina to the extent of the marina structure, with the exception of a 50-foot buffer around the fuel dock for the purpose of establishing a “no-wake” zone. There would be no “no-wake” zone around the rest of the marina, nor would there be any expansion of harbor limits.

If the marina is constructed as proposed, there would be no significant impacts to Navigation. To ensure this outcome, conditions have been included in Section 6.1, Water-Use Facility Commitments.

3.4.6 Recreation

Recreation was previously discussed in Section 3.4.6 of the 2000 FEA. The following analysis provides an updated review.

Recreation Demand

Recreation demand is driven by population growth and demographics. Recreation demand for the proposed Pickwick Pines Marina covers a service radius of 50 miles and is also influenced by three metropolitan areas that are in easy driving distance to the proposed site. The 50-mile service area for the proposed Pickwick Pines Marina includes the counties of Colbert, Franklin, and Lauderdale in Alabama; Alcorn, Itawamba, Prentiss, Tippah, and Tishomingo in Mississippi; and Chester, Decatur, Hardeman, Hardin, Henderson, McNairy, Lawrence, Perry, and Wayne in Tennessee. Total population in this area is estimated at 514,708 for 2006 and is projected to grow to 533,312 by 2011 and to 550,172 by 2016, an increase of more than 35,000 in 10 years, for a total growth rate of 6.9 percent or an annual average growth rate of 0.67 percent. Pickwick Reservoir also serves as a recreation destination for residents of three additional metropolitan areas: Tupelo, Mississippi; Jackson, Tennessee; and Memphis, Tennessee. Residents from these three metropolitan areas visit Pickwick Reservoir in large numbers for recreation opportunities because the existing road network makes it more accessible than other alternatives and because the quality of water-related recreation opportunities are greater than on the Mississippi River and other smaller inland reservoirs. This unique visitor pattern results in Pickwick Reservoir being more of a regional recreation area that currently draws on an additional 1.5 million area residents from outside the 50-mile radius around the proposed project. These areas outside the 50-mile radius are projected to add over 154,000 residents over the next 10 years.

The trend data from *National Survey on Recreation and the Environment* (1982-2001) place motor boating in the second fastest-growing group of sports, with a growth rate of 62 percent for that period or about 2.57 percent per year. More recently (2001-2004), the growth rate for motor boating has risen only slightly (about 1 percent nationally) with a slight decline in the Southeast. Motor boating in Alabama, Mississippi, and Tennessee has participation rates ranging from 23 to 25 percent of the population.

Alabama has a motor boating participation rate of 25.4 percent; among water-based recreation activities, “fishing from boat” ranks fourth and “power boating” ranks twelfth. Alabama ranks 17th among all states in number of registered boats with 264,006 in 2004; Alabama’s boating registrations peaked at 267,868 in 1999 and declined during the recession of 2000-2003.

Mississippi has a motor boating participation rate of around 23.2 percent, which ranks fifth in water-based recreation activities in the state with an estimated 673,000 participants. Nationally, Mississippi ranks around 23rd in number of registered boats with 209,216 as of 2004.

Tennessee has a motor boating participation rate of 23 to 24 percent, with motor boating ranking sixth among water-based recreation activities with an estimated 1.05 million participants. In Tennessee, boating registrations peaked at 314,624 in 1999 and declined during the recession of 2000-2003 with an increase for 2004 to 264,000.

Based on the 10-year population projection of over 189,000 additional individuals, this would place the population base in 2016 at over 2.2 million for boating demand at Pickwick Reservoir. With participation rates ranging from 23 to 25.4 percent, the estimated total market would be about 506,900 to 559,000 total boating participants with around 43,700 to 48,000 additional boaters, reflecting the overall population increase from 2006-2016. Only a portion of the additional boaters will own their own boats, as many of these participants will boat with family and/or friends, and some of these new boats will be trailer-boats for launch at ramps.

The impact on boating from the 2004-05 increase in fuel prices has yet to be studied, though analysts anticipate an overall reduction in boat sales and boating-related recreation activity.

The applicant proposes to sell and rent larger houseboats, which are common on some other inland reservoirs such as Lake Cumberland but offer a new recreational opportunity on Pickwick Reservoir.

Nearby marinas are located on Yellow Creek Embayment at Tenn-Tom Waterway Mile markers 448.9R (Aqua Yacht Harbor) and 449.8R (Grand Harbor Marina). Other nearby marinas are located at TRM 207.6L (Pickwick Landing State Park), TRM 220.0L (J. P. Coleman State Park), and TRM 224.8L (Eastport Marina), see Table 3-2. The area from Pickwick Landing State Park to Coleman State Park, including the mouth of the Tenn-Tom Waterway downstream to Aqua Yacht Harbor, is a very congested area during the summer recreation season.

Table 3-2. Existing Marina Facilities

Facility	Location	No. of Wet Slips	Fuel	Repairs	Rentals	Occupancy	Waiting List	Pump-Out
Aqua Yacht Harbor	448.9R Tenn-Tom*	500	Yes	Yes	Yes	30-Foot Slips**	No	Yes
Grand Harbor Marina	449.8R Tenn-Tom*	325	Yes	No	No	80 Percent	No	Yes
Pickwick Landing State Resort Park	207.6L Tennessee. River	282	Yes	No	Johnboats	100 Percent	Yes	Yes
J. P. Coleman State Park	220.0L Tennessee River	52	Gas only	No	No	100 Percent	Yes	Yes
Eastport Marina	224.8L Tennessee River	59	Yes	Yes	No	30-Foot Slips**	No	No

* The Tenn-Tom Waterway intersects the Tennessee River at Tenn-Tom Waterway Mile 450.4 and TRM 215.2L.
** All slips were fully occupied except for a few 30-foot slips.

Public boat launching ramps are located on both sides of the proposed marina site at Tenn-Tom Waterway Miles 448.9R and 446.8R. In addition to these existing access areas, a growing number of vessels transit this waterway on the north-south route connecting the Gulf of Mexico with the Midwest. This route is preferred by recreational boaters making the seasonal trips because it is shorter, less expensive, and less hazardous than the route along the Mississippi River. The majority of the transiting traffic occurs in the fall and spring.

The marina is proposed for an embayment that is only partially sheltered and approximately 0.75 mile from the Tenn-Tom Waterway channel. Wind and wave protection will be necessary for a marina development.

Under the No Action Alternative, the proposed Pickwick Pines Marina would not be built. Under the Proposed Build Marina Alternative, a commercial public marina and related facilities would be built and maintained on the site. New marina services, including moorage, fuel, and related services would be offered to the boating public. The proposed site is over 0.75 mile from the main channel, approximately 0.5 mile from Aqua Yacht Harbor, and 2 miles from Grand Harbor Marina. The area within an approximately 0.5-mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel. This area is able to accommodate additional boating without significant cumulative impact. The main channel from Goat Island to the mouth of Yellow Creek is congested during peak periods of weekends and holidays. It is assumed that boaters using the proposed marina would merely transit this area en route to other parts of the reservoir where they would be more dispersed.

Based upon the data contained in Table 3-2, there is an apparent market for additional marina facilities. The proposed new marina would likely increase boating and vehicle traffic in the immediate area during the summer recreation season. A survey of Tennessee River marinas conducted in 1999 (TVA, 2000b) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less that 10 percent on summer weekdays. The requested action proposes a 228-slip marina with 14 100-foot; 21 80-foot; 15 70-foot; 26 60-foot; 36 50-foot; 24 40-foot; and 92 30-foot slips. Assuming that the boats using the

marina are all new to the area and not already using the local waterfront by other access means, a conservative assumption, the increase in number of boats would average about 23 per day, with about 75 on the busiest weekend days and less than 24 on weekdays in the summer. This would be a small increase compared to the one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. Such an increase would not constitute a significant impact. Vessel operators would have another option regarding fueling, dry stack storage and related services. Increases in vehicle counts and annual average daily traffic to the marina are discussed in Section 3.4.7, Transportation. A review of this section and the associated estimates for traffic counts are supported by the "Friends and Family Phenomenon" typical of levels of traffic generated by resorts and recreation facilities like marinas, where numbers of additional vehicles are required for guests participating in outings with friends and family. These counts when reviewed will generate traffic counts ranging from around 675 per day for weekdays and around 1460 per busiest weekend days. New development could be beneficial to the site in that it may minimize the vandalism that has occurred at the roadside park in the past.

Given this estimated population base and the estimated increase in boating demand and current slip occupancy rates, along with the opportunity to provide the diverse recreation activity of "houseboating" through a commercial proposal, the data and trends reflect that a new marina could provide these opportunities with little or no adverse impact to the existing area marinas.

Boating congestion and associated boating safety concerns are important public concerns. If the Pickwick Pines Marina is constructed as proposed, additional boaters can be expected to use the embayment, or at least pass through the embayment to points on the Tenn-Tom or Tennessee River. There would also be a little less room on the embayment as the marina would occupy about 21 surface acres (the embayment itself is about 500 acres).

Boating safety is primarily the responsibility of the boating public, particularly since law enforcement agencies responsible for marine safety (TVA, the U.S. Coast Guard, and the Mississippi Department of Wildlife, Fisheries, and Parks) are not able to patrol all of the waters in their jurisdictions all the time. These agencies rely heavily on public involvement. Users of Pickwick Reservoir are fortunate in that members of the concerned public have formed a Lake Watch Program with the assistance of the TVA Police Western Division. Those concerned with boating safety in the Yellow Creek Embayment or the general vicinity are urged to join the Pickwick Reservoir Lake Watch Program (more information is available at http://www.tva.gov/abouttva/tvap/lakewatch.htm). If someone observes a boater operating in an unsafe or suspicious manner, the observer should write down the boat registration number and report the activity to the TVA Police at 256-386-2444. The state of Mississippi is attempting to address growing boating safety concerns with its mandatory boating safety program for those born in 1980 or later.

Law enforcement agencies are required to report boating accidents with injury, death, or property damage of $500 or more to the U.S. Coast Guard. A review of the USCG Boating Incident database for the years 1995–2004 reveals that 17 incidents were reported to the USCG for that time period for the Yellow Creek embayment. There were no reported incidents involving a commercial tow. Most incidents involved open motor boats or personal watercraft; several involved cabin cruisers. Collisions as a result of driver inexperience or inattention predominate among these incidents, and there were several reports of striking debris, obstructions, or mechanical failure.

3.4.7 Transportation

Transportation was previously discussed in Section 3.4.7 of the 2000 FEA. The following updates this discussion.

The proposed marina site is located approximately 12 miles north of Iuka, Mississippi, and approximately 1 mile south of the Tennessee-Mississippi state line directly off Mississippi SR 25. Primary access to the site is via SR 25 from U. S. Highway (US) 72 through Mississippi. SR 25 becomes Tennessee SR 57 north of the state line in Hardin County, Tennessee (see Figure 3-2).

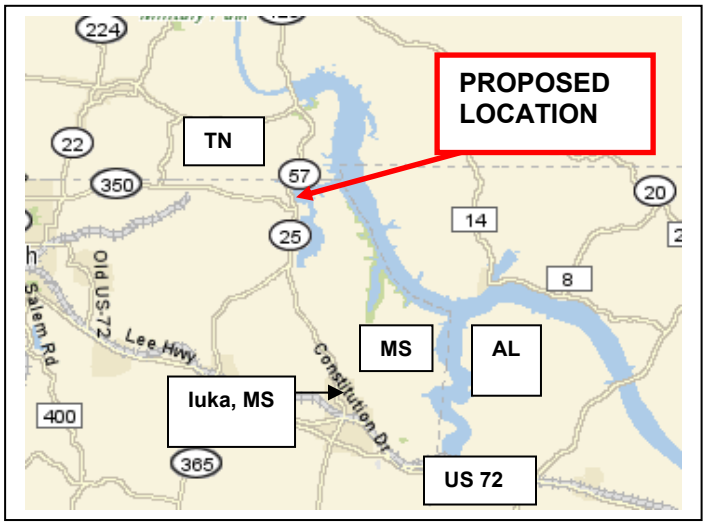

Figure 3-2. Transportation Network Near the Proposed Development

US 72, which runs in an east to west direction across northern Alabama and Mississippi is primarily a principal four-lane divided highway. US 72 and SR 25 intersect near Iuka, Mississippi. Traveling north from Iuka, SR 25 is a four-lane divided highway for 4.5 miles. Then, the road becomes two lanes and ranges from a high- to mid-quality roadway, with generally good speed limits, shoulder widths, passing zones, and sight distance. SR 25 is of fairly rolling terrain and curvy alignment in the vicinity of the tract under consideration. The developer has funds appropriated for the construction of a dedicated left turn lane from SR 25 onto the development. SR 57 in Tennessee is very similar to SR 25 in Mississippi.

The latest available Annual Average Daily Traffic (AADT) counts show from 7,100 to 12,000 vehicles per day on US 72 near its intersection with SR 25 and approximately 2,900 vehicles per day on SR 25 near the site (*2004 Annual Average Daily Traffic*, Mississippi Department of Transportation). SR 57 has approximately 4,230 vehicles per day near the Tennessee/Mississippi border (*2004 Annual Average Daily Traffic,* Tennessee Department of Transportation). There are also several marine storage, service, and sales businesses along SRs 25 and 57, as well as gasoline stations, small strip malls, private residences, and hotels.

The land use for the tract adjacent to the proposed marina is allocated for Commercial Recreation. Plans are for the development of commercial recreational facilities and would include a restaurant, rental cabins, and related facilities and a commercial marina consisting of 228 boat slips. This type of development would result in the generation of additional traffic on the adjacent roadway network. Increases in traffic would be primarily observed in close vicinity to the site on the two-lane SRs 25 and 57. Additional traffic would become dispersed on adjacent roadways further from the site and increases would tend to be less noticeable on major multi-lane highways, i.e., US 72, which provide higher capacity levels. Daily trip ends were estimated for this proposed development using the methods published by the Institute of Transportation Engineers (ITE) in *Trip Generation,* Sixth Edition. The models contained in *Trip Generation* are a compilation of data collected nationwide, and are typically conservative estimates. The governing criteria for this analysis were the number of boat slips in the development. The data collected and used for the generation rates were taken on the Pacific Coast in large cities. Some of the marinas surveyed had social and club activities, limited retail, and restaurants in addition to docks and berths. The additional traffic due to the proposal would result in an increase in AADT of approximately 807 vehicles per day. Based on the nature and location of the ITE generation data in comparison to the location of the proposed development, this estimate is likely to be very conservative and a worst case scenario.

The assessment of traffic effects for this proposed action is based on the transportation planning and engineering concept of Level of Service (LOS) found in the *Highway Capacity Manual* (Transportation Research Board, 1994 & 2000). The LOS concept addresses the quality of service, or operating conditions, provided by the roadway network, as perceived by motorists. LOS is a qualitative measure, expressed as one of six levels (A through F), which is described in terms of travel time, comfort, safety, and maneuvering freedom, and incorporates various measurable factors associated with a particular segment of a roadway into the analysis. The six levels of service vary as differing qualities of service provided by a roadway. LOS A is defined as the highest quality of service that a particular class of highway can provide. It is a condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles. LOS F indicates forced-flow operations at low speeds. The level of density increases to the effect of a traffic "jam." This is the worst condition possible.

Table 3-3 outlines the 2004 and projected AADTs and *Highway Capacity Manual* LOS for the primary routes affected by the development.

Table 3-3. 2004 and Projected AADT Counts for the Primary Routes Surrounding the Proposed Project

State Route	2004 AADT	Projected AADT	Percent Increase	Current LOS	Projected LOS
25	2,900	3,707	28	A	A
57	4,230	5,037	19	B	B

This projected increase in traffic due to the proposed development would not result in a change to the existing LOS for SRs 25 and 57 and is very conservative. It should also be recognized that this type of traffic is highly seasonal, and traffic increases would be lower during off-season times. The traffic flow would, though, be susceptible to sudden variation in operating speeds due to turning traffic and slow-moving vehicles, i.e., boat trailers, etc. Care should be taken in the placement of any entrance and exit roads for the recreational facility off of SR 25. Sight distances should be sufficient to allow for safe turning maneuvers into and out of the facility. Design guidelines should be considered when constructing the turning lane and the intersection for the proposed development.

The 2000 *Highway Capacity Manual* projects a capacity of 3,200 vehicles per hour for both directions of two-lane, rural highways. Table 3-4 illustrates what the two-way, peak-hour volumes (14 percent of AADT) would be for the two state routes using the projected AADTs and compares them to the HCM projected capacities.

Table 3-4. Two-Way, Peak-Hour Traffic Volumes and Projection Comparisons for State Routes 25 and 57

State Route	Two-Way, Peak-Hour Volume	Highway Capacity Manual Projections (No. of Vehicles)
25	519	3,200
57	705	3,200

The developer proposes to dredge approximately 3,000 cubic yards of material from the lake bottom area and haul this to a disposal site to the southwest of the proposed marina location. The plan also calls for bringing in 1,155 cubic yards of clean rock and fill material to be used in the construction of the proposed marina. This total of approximately 4,200 cubic yards of material to and from the site is equivalent to 420 round trips for a truck, assuming a 10 cubic yard truck is used for removal and delivery during the construction process. It is assumed that these trucks would be operating during normal working hours Monday through Friday. This schedule would avoid the peak weekend days of travel and not significantly impact the area since they would be distributed throughout the construction phases and would be for a temporary period of time.

The proposed Pickwick Pines Marina development would generate and distribute additional traffic to the existing transportation network, but would not create any significant changes or overloading to the network. The current and projected traffic volumes in the area appear to be at levels well below what the facilities can manage.

3.4.8 Noise

Noise was previously discussed in Section 3.4.8. of the 2000 FEA. Changes to the acoustic environment since the issuance of the FEA in December 2000 reflect the increased industrial, commercial, and residential growth and their supporting transportation services in the area. The ambient noise level goes up with increase in human activity.

Industrial growth at Yellow Creek Port includes the expanding steel roll and coil industry. The growing and new steel companies at Yellow Creek Port receive and ship rolls and coils by barge and heavy truck, and the movement of the rolls and coils on site is done with extremely large forklift equipment. The noise from the barge towboats, heavy trucks, and forklift equipment is plainly heard at the Pickwick Pines Marina site and at the adjacent residences.

Commercial activities serving the recreational boating and vacation home industries have increased significantly since the FEA. Aqua Yacht Harbor and Marina has grown with more boat slips and resulting boat usage. Nearby boat sales and service vendors have grown, and retail storefronts have increased within short distances from the site. Rental and for-purchase vacation homes have very significantly increased, including a new development directly across SR 25 from the site, Tishomingo Cabins.

Waterfront residential growth has been moderate since the 2000 FEA. The number of boathouses and docks visible from the picnic shelter on site has increase from 39 to 46, and there are at least three additional, visible residences recently built.

The contribution to the ambient noise environment from the traffic on SR 25 was estimated using a simple Federal Highway Administration noise model and the Annual Average Daily Traffic data in Section 3.4.7, Transportation. The mix of vehicle types was obtained from a mid-day traffic survey (1,140 to 1,300 hours, February 24, 2006) at the site. The vehicle mix was 194 light vehicles, 10 medium trucks, and 46 heavy trucks per hour. For modeling purposes, it was assumed that the light vehicles and medium trucks were traveling at 50 miles per hour and the heavy trucks at 45 miles per hour with the noise receiver about 100 feet from the centerline of the highway. The result was a 63.3 decibel (dB) hourly equivalent sound level at the receiver.

The proposed 228-slip marina has a potential, small environmental noise contribution to the incremental change in the total noise environment in general. For example, in the 2000 FEA it was estimated that an additional 33 power boats (about one-third) would be in use during the busiest weekends and this was insignificant when compared to the one-third (406) of the potential 1,218 just from the marina facilities given in Table 3.4-1. The comparison did not include the many day-launched and residential–launched boats that would be in use also. The proposed 228-slip marina for this SEA and a one-third use rates gives approximately 75 powerboats potentially added to the area during the few busiest weekends of the summer. This increase could be noticed locally as the boats leave moorage and disperse for fishing and other activities, but the overall impact on the environmental noise of the area would be insignificant.

The increase in traffic from the operation of Pickwick Pines Marina would have very little potential effect on the traffic noise in the immediate area. Using the projected two-way peak hour volume from Table 3-4, Transportation and the same Federal Highway Administration noise model and vehicle mix the estimated effect is small. The hourly equivalent sound level goes from 63.3 dB to 64.2 dB. An increase of 1 dB for an hour equivalent sound level is not noticed by most people.

The potential increase in noise from the operation of the proposed marina would be insignificant within the current ambient noise environment; and its relative contribution to the total acoustic environment would become smaller as the area's industry, commerce, and residential populations continue to grow.

3.5 Natural and Managed Areas

A review of data from the TVA Natural Heritage database indicated that the proposed marina is not within or adjacent to any managed areas and/or ecologically significant sites; however, three of these features are within 3 miles of the proposed marina.

- **Mississippi Wildlife and Recreation Land** is approximately 0.9 mile east of the proposed action and lies on the southern and eastern shore of Yellow Creek. This large, undeveloped shoreline tract is managed by Mississippi Wildlife, Fisheries, and Parks for J.P. Coleman State Park.

- **Cooper Falls TVA Habitat Protection Area** is approximately 2.6 miles east of the proposed action on the western shore of the main channel of the Tennessee River (Pickwick Reservoir). This 73-acre area occupies a small portion of the sandstone outcrops along Pickwick Reservoir and is in the southern extent of the Highland Rim region. It provides habitat for many species that have very limited distribution in Mississippi and also provides winter habitat for the bald eagle. A sheer bluff along Pickwick Reservoir includes scenic Cooper Falls.

- A larger portion of the scenic sandstone bluffs along Pickwick Reservoir, also approximately 2.6 miles east of the proposed action on the western shore of the main channel of the Tennessee River (Pickwick Reservoir), is the **Sandstone Outcrops/Pickwick Lake Bluffs Protection Planning Site**. The Mississippi Protection Planning Commission recognizes this bluffed shoreline for its scenic quality, its recreational uses, and its flora characteristic of the Tennessee Valley that is rare in Mississippi.

The proposed dredge spoils area is adjacent to one privately managed area and within 3 miles of one additional managed area. The spoils disposal area is less than 0.1 mile west of Tishomingo County Game Refuge, a three-tract area of 18,845-acres located in Mississippi and Tennessee and managed by a private company for the growth and sale of wood products and the lease of hunting rights. This tract is privately managed and has never been a state wildlife management area, government preserve or refuge. A 1,600-acre forested tract owned and managed by Mississippi State University, Sharp Forest, is approximately 2.0 miles northwest of the proposed spoils area. Mississippi State University leases the majority of this land to a timber company. The land also is used for forestry research and education

Under the No Action Alternative, the proposed marina would not be built. Under the Proposed Build Marina Alternative, no impacts are anticipated to natural areas within three miles of the proposed marina. Additionally, because the proposed dredge spoils area is outside the boundaries of privately managed Tishomingo County Game Refuge, no impacts to this area are anticipated. No Nationwide Rivers Inventory streams or wild and scenic rivers are within 3 miles of the proposed activity.

CHAPTER 4

4.0 LIST OF PREPARERS

Jennifer M. Call	Air Quality
J. Leo Collins	Botany
V. James Dotson	Transportation
James H. Eblen	Socioeconomics
Jerry G. Fouse	Recreation
Travis Hill Henry	Endangered Species Specialist
Clint Jones	Aquatic Ecology
M. Carolyn Koroa	Navigation
Charles L. McEntyre	Water Quality
Jay J. McFeters	Noise
Roger A. Milstead	Floodplains
Kenneth P. Parr	Document Preparation
Kim Pilarski	Wetlands
Jon C. Riley	Visual
Timothy J. Smith II	Cultural Resources
Jan K. Thomas	Natural Areas
Stephen E. Williams	Land Use

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CHAPTER 5

5.0 LIST OF AGENCIES AND PERSONS CONSULTED

Federal Agencies

U.S. Fish and Wildlife Service

State Agencies

State of Mississippi

Department of Environmental Quality (Carrie Barefoot, 601.961.5322)
Department of Wildlife, Fisheries and Parks (Major Kenny Neely, 1505 Eastman Dr., Jackson, MS 39211, 601.432.2186)

Individuals

Alexander, Michael & Deborah	Germantown, TN 38138
Allen, Louis F. - Glankler Brown, PLLC	Memphis, TN 38103-2566
Baber, Rodney	Memphis, TN 38120
Bishop, A. Eugene Yellow Creek Port	Iuka, MS 38852
Blount, Percy J.	Augusta, GA 30901
Bourland, Dr. & Mrs. Walter	Tupelo, MS 38804
Brewer, Robert M. Crounse Corporation	Paducah, KY 42001
Brewer, Doris S.	Iuka, MS 38856
Browder, Shirley	Nashville, TN 37211
Browndyke, Chip	Boise, ID 83712
Browndyke, Larry	Dallas, TX 75243
Browndyke, Todd	Dallas, TX 75204
Browndyke, David	W. Harrison, IN 47060
Burcham, Huie and Libe	Counce, TN 38326
Burkett, Tom	Bartlett, TN 38133
Cowan, William C.	Collierville, TN 38017
Cunningham, Mike and Tracy	Germantown, TN 38139
Dalton, Bill	Corinth, MS 38834
Dalton, Frank T.	Corinth, MS 38834
Dalton, Kathleen Bourland	Corinth, MS 38834
Davis, Dave & Robin	Jackson, MS 39211
Davis, Ethel	Corinth, MS 38834
Davis, Frank & Amy	Corinth, MS 38834
Davis, Hugh Long, IV	University, MS 38677
Davis, J. Robert	Corinth, MS 38834
Denton, Gus	Memphis, TN 3817-2304
Field, Robert & Suzanne	Germantown, TN 38138
Ford, Jane R.	New Albany, MS 38652
Gabrielle, Carolyn	Gallatin, TN 37066
Glenn, Herbert and Carolyn	Memphis, TN 38116
Glenn, John	Walls, Ms 38680
Glenn, Jeff	Southaven, MS 38671
Green, Diane	Eads, TN 38028
Hardcastle, Mr. & Mrs. MacDonald Keltner	Nashville, TN 37220
Heflin, John & Mary Ben	Memphis, TN 38111
Heflin, James	Tuscaloosa, AL 35486
Hodges, Hugh & Carolyn	Counce, TN 38326
Hollis, Jeanne B.	Memphis, TN 38119

Huie, Martha	Memphis, TN 38177
Humphries, David - ERGON& MAGNOLIA	Jackson, MS 39225-3546
Hamilton, Elizabeth M	New Albany, MS 38652
Hill, Jon H.	Corinth, MS 38834
Hirt, John M.	Counce, TN 38326
Hyrka, Joe	Memphis, TN 38104
Ingram, William	Germantown, TN 38139
Irwin, Paul & Brenda	Iuka, MS 38852
Jameson, Mrs. Andrea	Holly Springs, MS 38635
Jensen, Richard D. and Margaret K.	Germantown, TN 38139
Jolly, Beth	
Johnston, (Dr.) William D., and Mrs.	Nashville, TN 37215
Johnston, David	
Kruger, M. Randolph	Collierville, TN 38017
Lee, Spencer (Dr)	Savannah, TN 38372
Lendrum, Jamie, Peter & Alex	
Lichterman, John D. & Janice	Memphis, TN 38117
Lichterman, Kip	Memphis, TN 38111
Liddon, Robert C.	Iuka, MS 38852
Little, Phillip M.	Corinth, MS 38835
Lomenick, Janice and Eddie	
Marascuilo, Vince & Marsha	Cordova, TN 38016
Margill, Nancy J.	Germantown, TN 38138
Maroda, Steve	Memphis, TN 38117
Matthews, Gary, Exec Director, TCDF	Iuka, MS 38852
Maury, Becky	
Maury, Bill	Memphis, TN 38120
McCullen, Brian	Corinth, MS 38834
McDonald, Jay "Paul"	Yellow Creek, MS 38326
McHughes, Patricia S.	Cordova, TN 38016
Melvin, Joan H. & Sarah Elisabeth	Memphis, TN 38111
Minervnin, Virginia Klyce	Memphis, TN 38120
Magill, Nancy	Germantown, TN 38138
Moore, Meade and Beth	Collierville, TN 38017
Mueller, Dean Grand Harbor Marina	Counce, TN 38326
Nolan, Larry	Barlett, TN 38133
Nance, A. M.	Germantown, TN 38138
Nenon, Carroll S.	Memphis, TN 38117
Nenon, Edward F.	Counce, TN 38326
Palmer, Marvin H, Sr. and Ann Ward Palmer	Memphis, TN 38119
Perry, James F., and family	Rienzi, MS 38865
Pittman, Alison J.	Corinth, MS 38834
Reddoch, Diane C.	Memphis, TN 38119
Reddoch, Michael & Melissa	Memphis, TN 38119
Renfro, Laurie	
Renshaw, Drew	Counce, TN 38326
Rinehart, Charles and family	Counce, TN 38326
Rinehart, George	Rienzi, Mississippi 38865
Roberts, Susan Wright	Tupelo, MS 38804
Robertson, Terry And Allyson	Germantown, TN 38139
Rogers, King W.	Memphis, TN 38119-3978
Rogers, Yolanda and Robin	Germantown, TN 38138
Ronk, Carolyn	Alamo, TN 38001
Schultz, Raymond E.	Memphis, TN 38119
Shawkey, Tyler and Jackie	Iuka, MS 38326

Stanley, Clayton	
Stanley, Mike	Corinth, MS 38834
Simpson, Dr. Jon & Caroline	Germantown, TN 38138
Taylor, Cathy B.	Counce, TN 38326
Thornton, Betsy M.	Brownsville, TN 38012
Warriner, Richard	Tupelo, MS 38801
Wenzel, Phillip and Donna	Cordova, TN 38016
Williams, Bailey	Corinth, MS 38834
Williams, Darrell	
Williams, Frances & James	Tupelo, MS 38804
Young, Dan	
Young, Betsy	Memphis, TN 38111

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CHAPTER 6

6.0 COMMITMENTS

The following requirements (conditions) would be incorporated for approval for TVA Section 26a permit in order to reduce the potential for adverse environmental effects.

Special Conditions

1. The architectural color scheme would be visually compatible with natural background colors and would provide dark roofs on all structures. The color scheme applies to the lodge, cabins, dry storage, water-use facilities, and miscellaneous structures. It also applies to the signage, where a compatible contrasting color may be added for message readability.
2. No enclosed boathouses would be permitted, and covered boat slips would be open on all sides. Roofs and the structural framing would be a dark selection from the color scheme.
3. All requests for proposals from developers would require that the proposals follow TVA's *Clean Marina Guidebook* for ensuring properly installed, operated, and maintained facilities. Additionally, guidelines would be established to ensure proper and complete usage of sewage disposal by occupants of the marina.
4. TVA would require that all sewage pump-out facilities and appurtenances have spill-proof connections, failure alarms, and no overflow piping. TVA would require that underground storage tanks containing regulated substances, such as petroleum products, have secondary containment, anchorage to prevent floating during flooding, and a Spill Prevention, Control, and Countermeasures plan. Aboveground storage tanks would be required to be installed and maintained in compliance with applicable aboveground storage tank requirements.
5. The applicant would be required, through deed restrictions, to maintain a 50-foot undisturbed buffer to be managed as a shoreline management zone. Undisturbed forested buffers at least 50 feet wide would be maintained and enhanced around the site with 100-foot minimum width along the cove at the north end. Minimum openings are acceptable for water access on the south end.
6. Applicant would incorporate an acceptable method of wave attenuation in the marine design.
7. TVA requires the placement of a single dolphin at the southeast corner of the marina which may be either incorporated into the marina or free standing. The dolphin should be constructed as shown in Appendix D, as a minimum. The dolphin structure must be lit in accordance with U.S. Coast Guard requirements. Pickwick Pines Marina Inc. would be responsible for inspecting and maintaining the dolphin, markings and lighting.
8. Harbor limits would be confined to the interior of the marina structure with the exception of a 50-foot buffer around the fuel dock for a "no-wake" zone as shown in PN No. 05-87A, sheet 3.

9. Pickwick Pines Marina Inc would be responsible for installing and maintaining the no-wake buoys no further than 50 feet from the fuel dock. They must be legible to the boating public.
10. Applicant agrees that spoil material would be disposed of and contained on land lying and being above the 419.6-foot contour. Every precaution would be made to prevent the reentry of the spoil material into the reservoir.

Routine Conditions

11. Applicant agrees to anchor all floating facilities securely to prevent them from floating free during major floods.
12. The floor elevation of the fixed dock would be a minimum of 1.5 feet above the normal summer pool elevation 414.0.
13. No items/equipment subject to flood damage would be located on the dock
14. Applicant understands that TVA retains the right to flood this area and that TVA would not be liable for damages resulting from flooding.
15. For purposes of shoreline bank stabilization (retaining wall and riprap), all portions would be constructed or placed, on average, no more than 2 feet from the existing shoreline at normal summer pool elevation.
16. Shoreline stabilization and erosion control would use bioengineering methods to the extent practical and other applicable methods as required.
17. Employ and implement all appropriate construction BMPs. These BMPs include:
    a) Disturbance and removal of riparian vegetation shall be kept to a minimum during construction, particularly any woody vegetation providing shoreline/stream bank stabilization.
    b) Installation of cofferdams and/or silt control structures between construction areas and surface waters prior to any soil-disturbing construction activity. Clarification of all water that accumulates behind these devices must meet state water-quality criteria at the stream mile where activity occurs before it is returned to the unaffected portion of the stream. Cofferdams must be used wherever construction activity is at or below water elevation.
    c) Must keep equipment out of the reservoir or stream and off reservoir or stream banks to the extent practicable (i.e., performing work “in the dry”).
    d) Must avoid contact of wet concrete with the stream or reservoir and avoid disposing of concrete washings, or other substances or materials, in those waters.
    e) Must agree to use erosion-control structures around any material stockpile areas.
    f) Must agree to apply clean/shaken riprap or shot rock (where needed at water/bank interface) over a water permeable/soil impermeable fabric or geotextile and in such a manner as to avoid stream sedimentation or disturbance, or that any rock used for cover and stabilization would be large enough to prevent washout and provide good aquatic habitat.

g) Must agree to remove, redistribute, and stabilize (with vegetation) all sediment that accumulates behind cofferdams or silt control structures.

h) Must agree to use vegetation (versus riprap) wherever practicable and sustainable to stabilize stream bank, shorelines, and adjacent areas. These areas would be stabilized as soon as practicable, using either an appropriate seed mixture that includes an annual (quick cover) as well as one or two perennial legumes and one or two perennial grasses or sod. In winter or summer, this would require initial planting of a quick cover annual only to be followed by subsequent establishment of the perennials. Seed and soil would be protected as appropriate with erosion control netting and/or mulch and provided adequate moisture. Stream bank and shoreline areas would also be permanently stabilized with native woody plants to include trees wherever practicable and sustainable (this vegetative prescription may be altered if dictated by geologic condition or landowner requirements). Must also agree to install or perform additional erosion control structure/techniques deemed necessary by TVA.

18. Use only U.S. Environmental Protection Agency-registered chemicals (i.e., pesticides, including herbicides) in accordance with label directions.

Additional ***Special Conditions*** are recommended for inclusion in the DA permit in order to further minimize and/or avoid environmental impacts. The following conditions are necessary to comply with federal law while affording appropriate and practicable environmental protection.

1. The work must be in accordance with any plans attached to this permit. You must have a copy of this permit available on the site and ensure that all contractors are aware of its conditions and abide by them.

2. The permitted activity must not interfere with the public's right to free navigation on all navigable waters of the US.

3. The permittee shall recognize the possibility that any permitted structures may be subject to damage by wave wash from passing vessels and the applicant shall not hold the US liable for any such damage.

4. The permittee must install and maintain, at their expense, any safety lights and signals prescribed by the US Coast Guard, through regulations or otherwise, on the authorized facilities.

5. The permittee shall institute and maintain a strict erosion and sediment control program for the life of the project. All disturbed areas shall be properly stabilized as soon as practicable to prevent erosion.

6. Pickwick Pines will submit written notice to the Yellow Creek Port and the Ergon terminal at least 5 days prior to the waterborne transportation of any marina structures across the Yellow Creek embayment from the Port to the marina site.

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CHAPTER 7

7.0 REFERENCES

Cordell, et al, 2004. *Outdoor Recreation for 21st Century America: A Report to the Nation: The National Survey on Recreation and the Environment*, Venture Publishing, Inc., State College, PA.

State of Mississippi. 2004. *Water Quality Assessment 2004 Section 305(b) Report Addendum.* Mississippi Department of Environmental Quality, May 2004. Prepared by N. B. Guedon and J. V. Thomas. Jackson, Miss.: Watershed Management Branch. Available at http://www.deq.state.ms.us/MDEQ.nsf/pdf/FS_305b_2004_Addendum/$File/305b_2004_Addendum.pdf?OpenElement (date of access undetermined).

Tennessee Valley Authority. 2000a. *Tishomingo County Development Foundation Request for Long-Term Tenure Commercial Recreation Easement Tract XPR-460RE Final Environmental Assessment – Pickwick Reservoir*. Muscle Shoals, Ala.: TVA Pickwick Watershed Team.

Ibid. 2000b. Tennessee River Survey.

Ibid. 2002. *Pickwick Reservoir Land Management Plan*.

Ibid. 2004. *Pickwick Reservoir Monitoring Results – Ecological Health Ratings.*

Institute of Transportation Engineers. 1998. *Trip Generation*, 6th edition.

Transportation Research Board. 1994. *Highway Capacity Manual.*

Ibid. 2000. *Highway Capacity Manual.*

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APPENDIX A – JOINT PUBLIC NOTICE 05-87-A

U.S. ARMY CORPS OF ENGINEERS
TENNESSEE VALLEY AUTHORITY
AND
STATE OF MISSISSIPPI

PICKWICK PINES MARINA INC.
IUKA, MISSISSIPPI

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US Army Corps of Engineers.

Nashville District

Public Notice

Public Notice No. **05-87-A** Date: **17 February 2006**

Application No. **2005-02082** Expires: **18 March 2006**

Please address all comments to:
Nashville District Corps of Engineers, Regulatory Branch
(Attn: Kathleen J. Kuna)
3701 Bell Road, Nashville, TN 37214
kathleen.j.kuna@usace.army.mil

JOINT PUBLIC NOTICE
US ARMY CORPS OF ENGINEERS
TENNESSEE VALLEY AUTHORITY
AND
STATE OF MISSISSIPPI

SUBJECT: Proposed Public Marina with Harbor Limits, 228 Boat Slips with Floating Wave Breaks, Fuel Dock, Villa Mooring Dock, Boat Ramp, Dredging, Retaining Wall and Bulkhead for a Boat Lift Dry Stack Storage Facility, one Dolphin; and Associated Upland Development (Pickwick Pines Resort & Marina)at Tennessee-Tombigbee Waterway (TTW) Mile 448.4LB, (Yellow Creek) at Tennessee River Mile 215LB, Pickwick Lake, Tishomingo County, Mississippi. TVA RLR# 169384.

This proposed action was originally advertised by Public Notice 05-87 on October 19, 2005. The original layout plan has been revised and is attached to this document.

TO ALL CONCERNED: The application described below has been submitted for a Department of the Army Permit pursuant to **Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA) and Section 26a of the TVA Act**. Before a permit can be issued, certification must be provided by the Mississippi Department of Environmental Quality, pursuant to Section 401(a) (1) of the CWA, that applicable water quality standards will not be violated. By copy of this notice, the applicant hereby applies for the required certification.

APPLICANT: **Pickwick Pines Marina, Inc.**
11 Ashley Avenue
Iuka, MS 38852
Agent: Rodney Lucas Phone: 662-279-0676

LOCATION: Tennessee-Tombigbee Waterway (TTW) Mile 448.4LB, (Yellow Creek Mile 3.0 LB); a distributary of the Tennessee River at Mile 215LB, Pickwick Lake, Tishomingo County, Mississippi.

TVA Tract XPR-460RE - RLR No.169384. USGS Yellow Creek Quadrangle Map; Latitude 34° 48' 54" N, Longitude 88° 14' 44" W.

DESCRIPTION OF PROPOSED WORK: The applicant proposes to develop approximately 31-acres of TVA land, Tract No. XPR-460RE through commercial recreation easement. The proposed site is currently under a 40-year TVA commercial recreation easement held by the Tishomingo County Development Foundation (TCDF). They proposed to develop the site for a marina, restaurant, rental cabins, etc. TVA originally prepared an Environmental Assessmen (EA) to assess the environmental impacts of such a project. In 2000, a Finding of No Significant Impact (FONSI) was issued for the project. Pickwick Pines has recently leased the property from TCDF for completion of the project. TVA will review the current plans and prepare a supplemental EA for project approval under Section 26a of the TVA Act.

The proposed development would be called Pickwick Pines Marina. Harbor Limits would be established by the TVA Navigation Program The proposed harbor limit would be around the perimeter of the marina structures with permitted buoys for a 50' no-wake zone on the three sides of the fuel dock. There would be no additional no-wakes zones. The marina docks would be protected by a lighted dolphin at the southeast corner of the marina. The dolphin would be comprised of two concrete-filled 8" diameter pipes and one concrete-filled 12" diameter pipe in a tripod shape. The dolphin would be mitigation for the potential for a wind-blown tow allision between tows serving the neighboring Ergon asphalt terminal and the marina structure. The docks would be tethered to the dolphin with cables.

The proposed activity would require the dredging of approximately 3,000 cubic yards (CY) of lake bottom materials from below the 414 NSP Elevation at the following two locations:

Area 1: Approximately 9,000 SF for access to the dry stack dock and boat ramp.

Area 2: Approximately 9,950 SF for restaurant deck and access. Dredging would be required to create a 6-foot water depth at the Normal Winter Pool (NWP) Elevation of 408.0. All dredging would be performed using land based equipment. All dredged material would be immediately removed from the site by truck and stabilized in an off-site disposal area away from the lake.

The proposed activity would also require the discharge of clean fill material for the following:

1. 1000 CY clean rock for 1800 LF of bank stabilization. The riprap would extend lakeward to Elevation 410.
2. 155 CY of fill material (concrete & clean fill) below the NSP 408 Elevation for a dry stack storage bulkhead and adjacent 12'W service boat launching ramp.

The 30' x 40' x 14' high dry stack bulkhead would have a top elevation of 416, would extend approximately 10-feet into the water from the shoreline and would be used for loading and unloading boats for storage. The bulkhead and ramp would be constructed using a coffer dam system to temporarily dam and

drain the construction area to ensure that no construction would be accomplished under water. A 6'W x 100'L dock for boats awaiting storage would be constructed along the shoreline adjacent to the bulkhead. The dock would be floating on telescoping poles with the ramp pinned to a bulkhead above the 414 elevation. The ramp would extend to Elevation 406. The ramp would be used for only for emergency situations or for retrieval of inoperative boats. There would be no private or public use of the ramp.

The proposed marina would be constructed according to the TVA Clean Marina Standards. There would be 228 boat slips in the following configuration:

Dock	# of Slips	Length	Width
A	21	60'	24'
B	14	100'	30'
C	22	50'	20'
D	24	40'	18'
E	32	30'	12'
F	30	30'	12'
G	30	30'	12'
H	15	17'	22'
I	14	60'	22'
J	14	50'	20'
K	12	60'	22'

All slips 40 feet and larger would provide in-slip pump-out in accordance with R.S. Guideline 4.5.3 - Marina Sewage Pump-out Stations and Holding Tanks. All docks would have water, electrical and sewer service. Water cutoffs and electrical disconnects would be located above Elevation 423. All sewer lines would have shutoffs and check valves. The access ramps to the docks would be pinned to bulkheads installed above Normal Summer Pool Elevation 414. The docks would be floating secured by telescoping poles and attached to the access ramps.

The fuel dock would have pump-out facilities in accordance with R.S. Guidelines 4.5.3 - Marina Sewage Pump-out Stations and Holding Tanks. Fuel tanks as shown on drawings would be constructed in accordance with R.S. Guidelines 4.5.5 Storage Tanks (USTS and ASTS). All fuel lines shall be flex piping with cutoffs installed. A fixed 12-foot wide timber deck constructed for seating would be adjacent to the restaurant. The deck would be constructed on 6"x 6" treated wood pilings.

Plans for the upland property include the construction of roads, a paved trail, residential villas, marina store, restaurant, pool, golf cart storage and a dry stack boat storage facility.

Potential impacts to navigation include but are not limited to increased recreational boat traffic and other safety issues, increased use of existing federal mooring facilities and increased costs.

Plans of the proposed work are attached to this notice.

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. In addition, the evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b)(1) of the CWA (40 CFR Part 230). A permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

A Supplemental Environmental Assessment will be prepared by TVA prior to a final decision concerning issuance or denial of the requested TVA 26a Permit and Department of the Army Permit.

The National Register of Historic Places has been consulted and no properties listed in or eligible for the National Register are known which would be affected by the proposed work. This review constitutes the full extent of cultural resources investigations unless comment to this notice is received documenting that significant sites or properties exist which may be affected by this work, or that adequately documents that a potential exists for the location of significant sites or properties within the permit area. Copies of this notice are being sent to the office of the State Historic Preservation Officer.

Based on available information, the proposed work will not destroy or endanger any federally-listed, threatened, or endangered species or their critical habitats, as identified under the Endangered Species Act. Therefore, we have reached effect determination and initiation of formal consultation procedures with the U.S. Fish and Wildlife Service is not pla at this time.

Other federal, state, and/or local approvals required for the proposed work are as follows:

TVA approval under Section 26a of the TVA Act. In addition t other provisions of its approval, TVA would require the appli to employ best management practices to control erosion and sedimentation, as necessary, to prevent adverse aquatic impac

Water quality certification from the state of Mississippi Department of Environmental Management (MDEQ) in accordance with Section 401(a) (1) of the CWA.

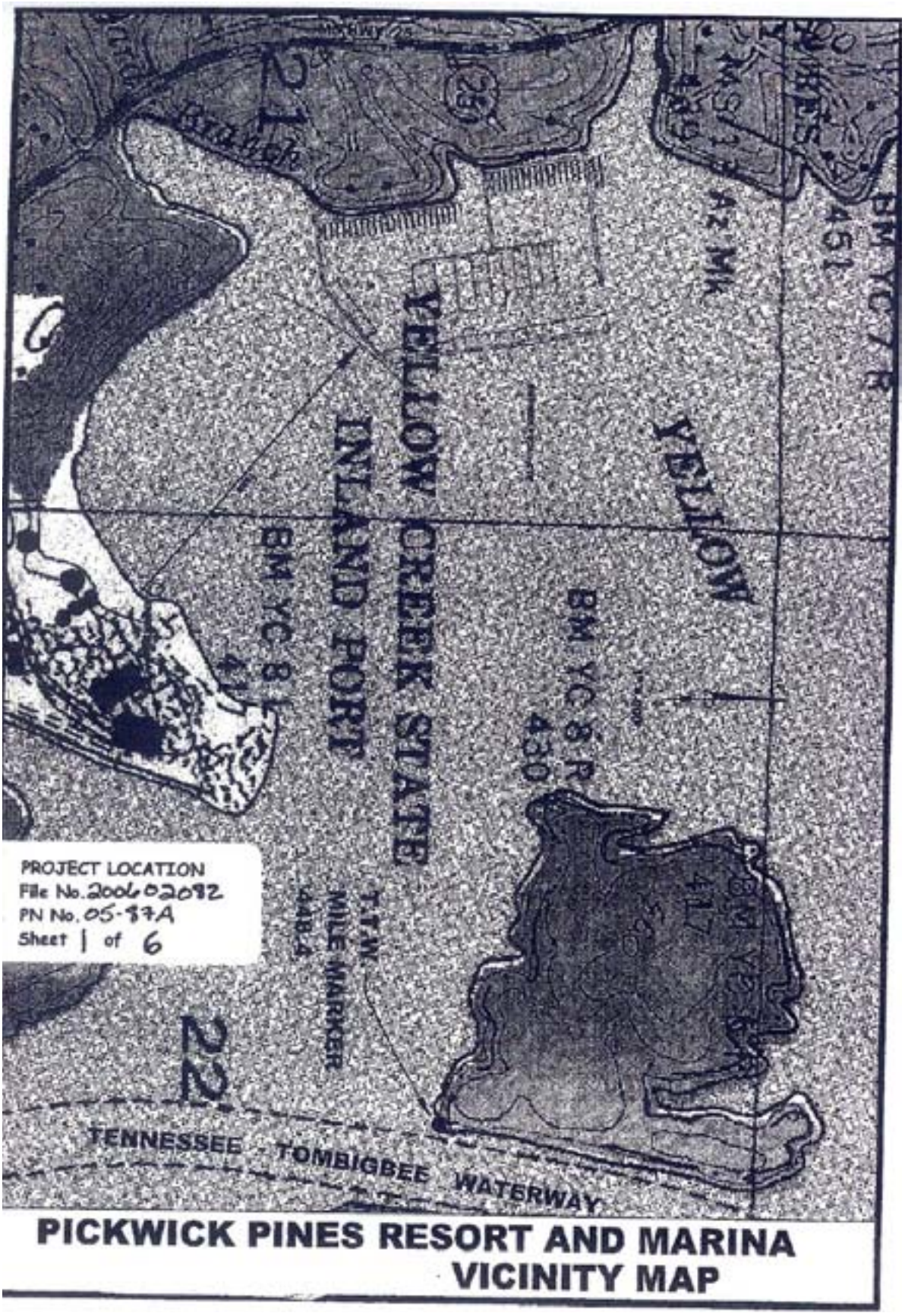
Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shal state, with particularity, the reasons for holding a public hearing.

Written statements received in this office on or before March 2006 will become a part of the record and will be considered the determination. Any response to this notice should be directed to Kathleen Kuná at the above address.

It is not necessary to comment separately to TVA or MDEQ since copies of all comments will be sent to them and will become pa of their record on the proposal. However, comments may also b sent directly to either agency at the following addresses:

Mr. Stephen Williams
Pickwick Wheeler Watershed Team
P.O. Box 1010 (SB 1H-M)
Muscle Shoals, AL 35662

Mr. Robert Seysarth
Chief, Water Quality Certification Branch
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, MS 39289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BM YC 8 R 430
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AZ MK
PROJECT LOCATION
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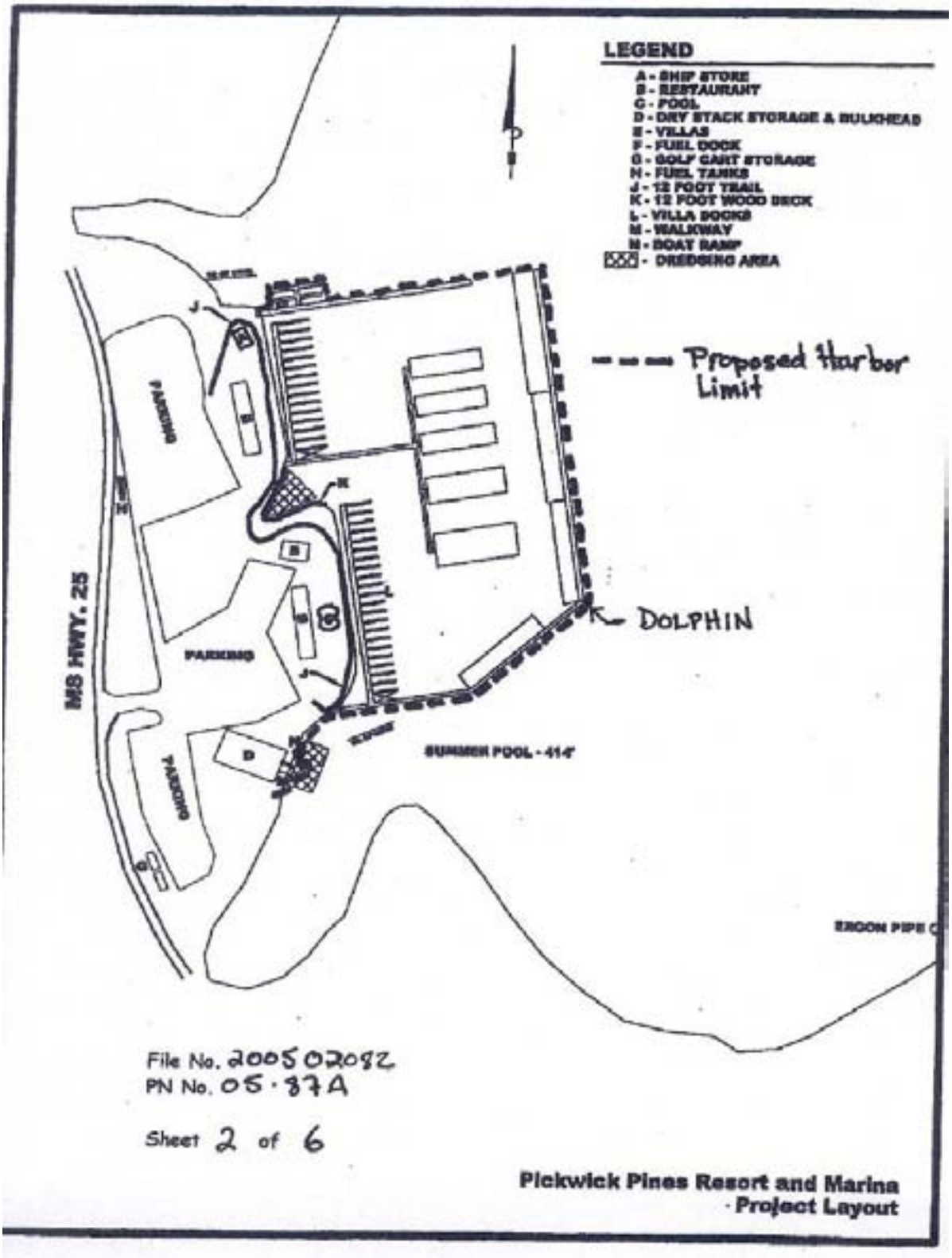
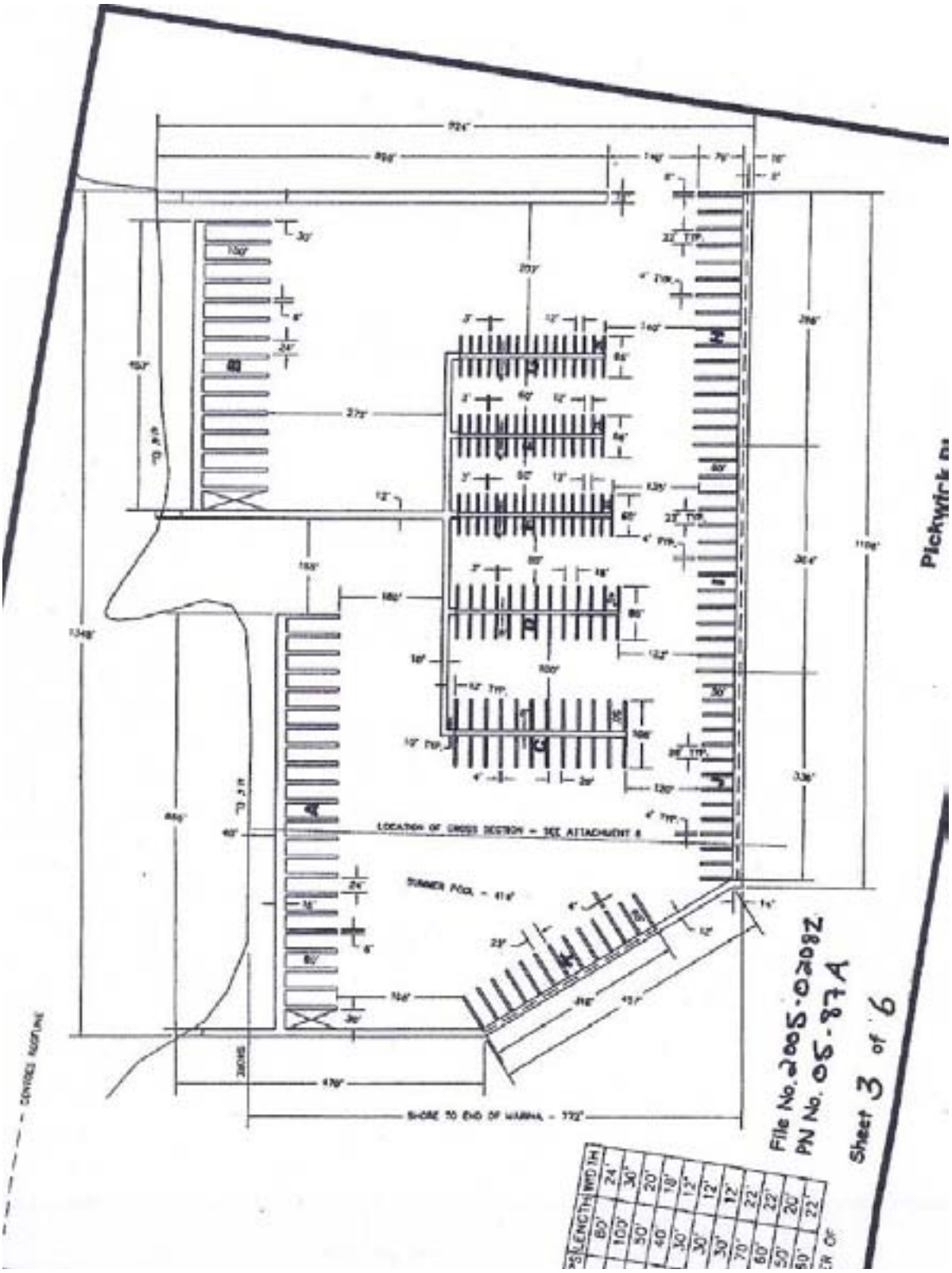
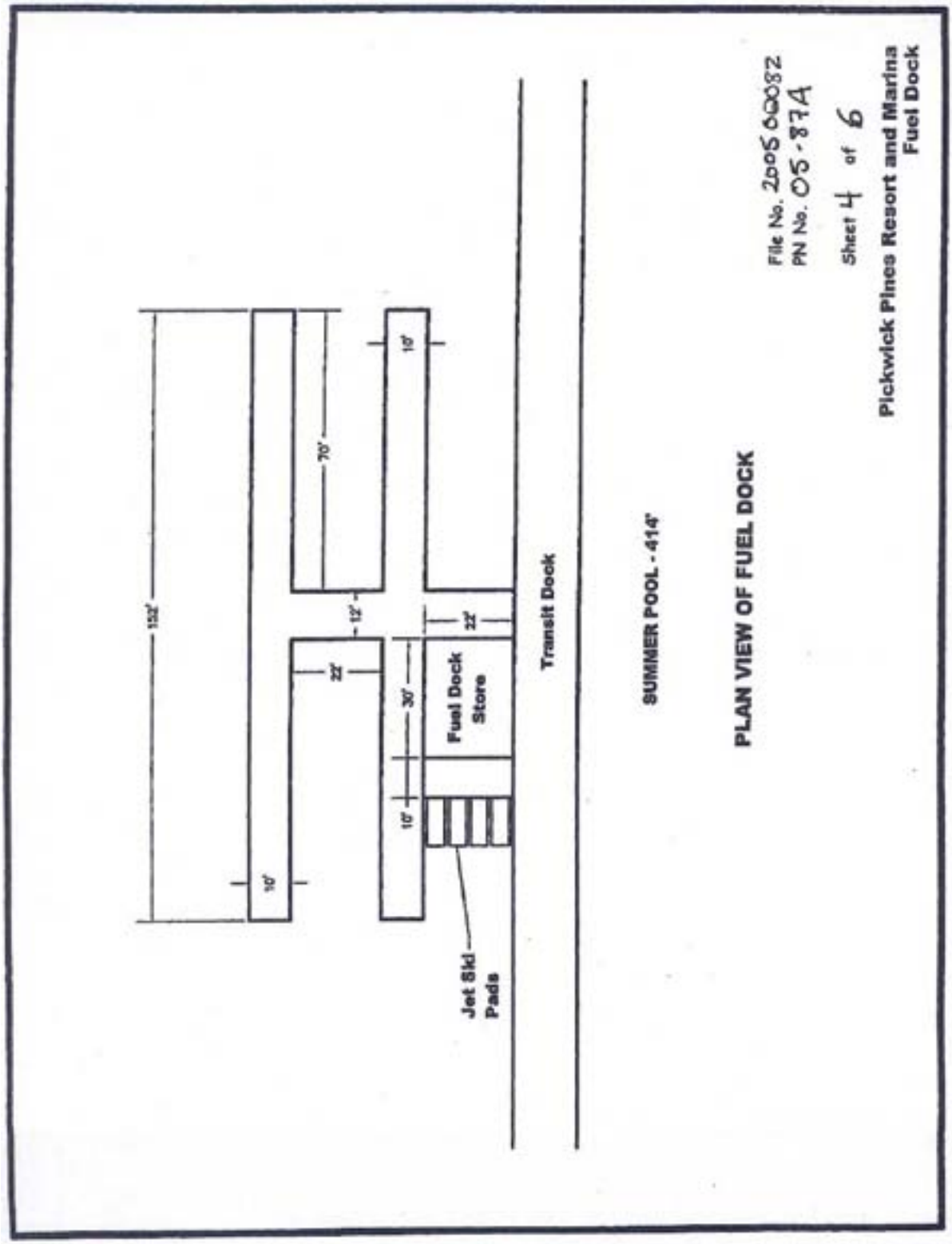
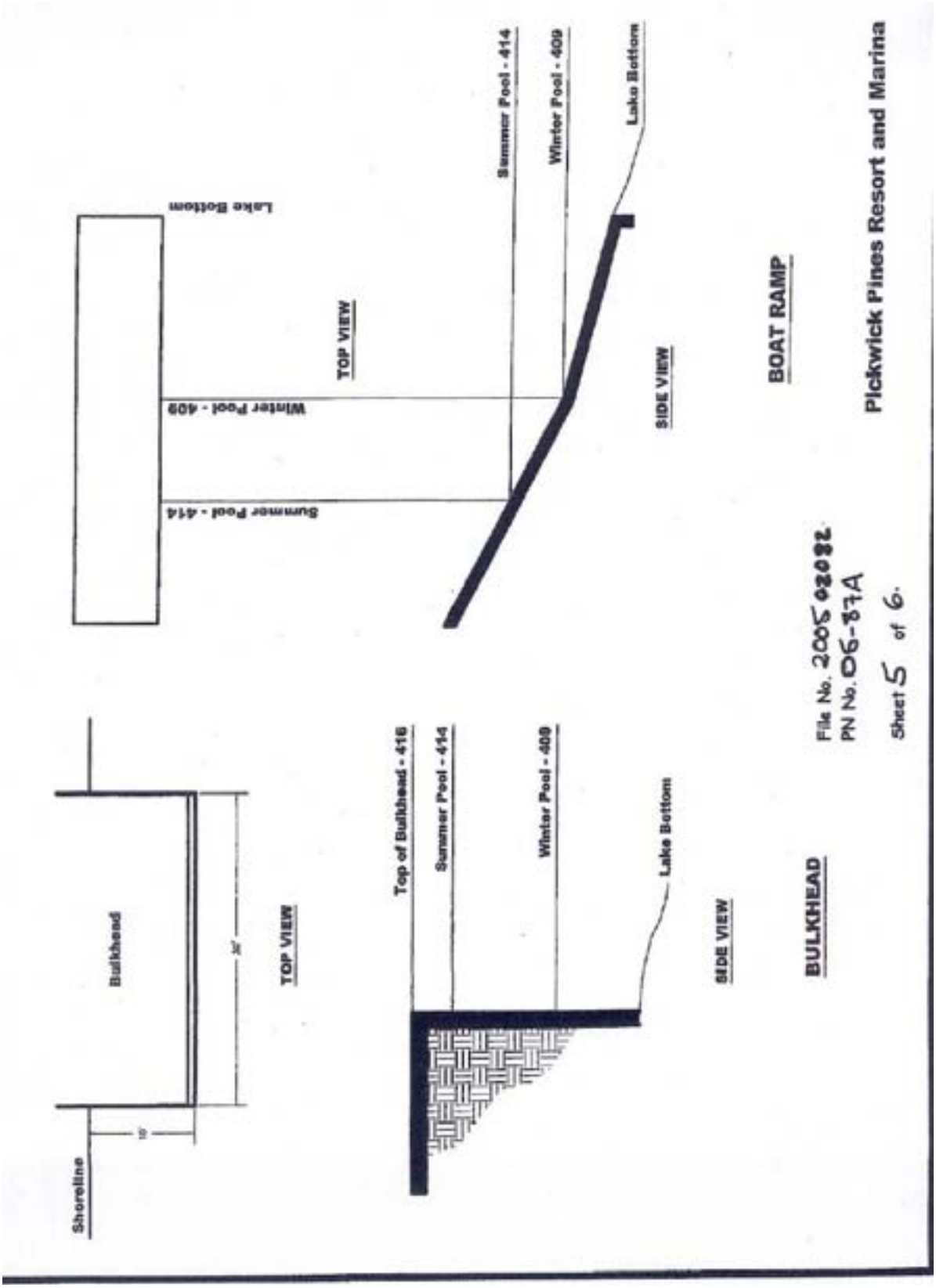
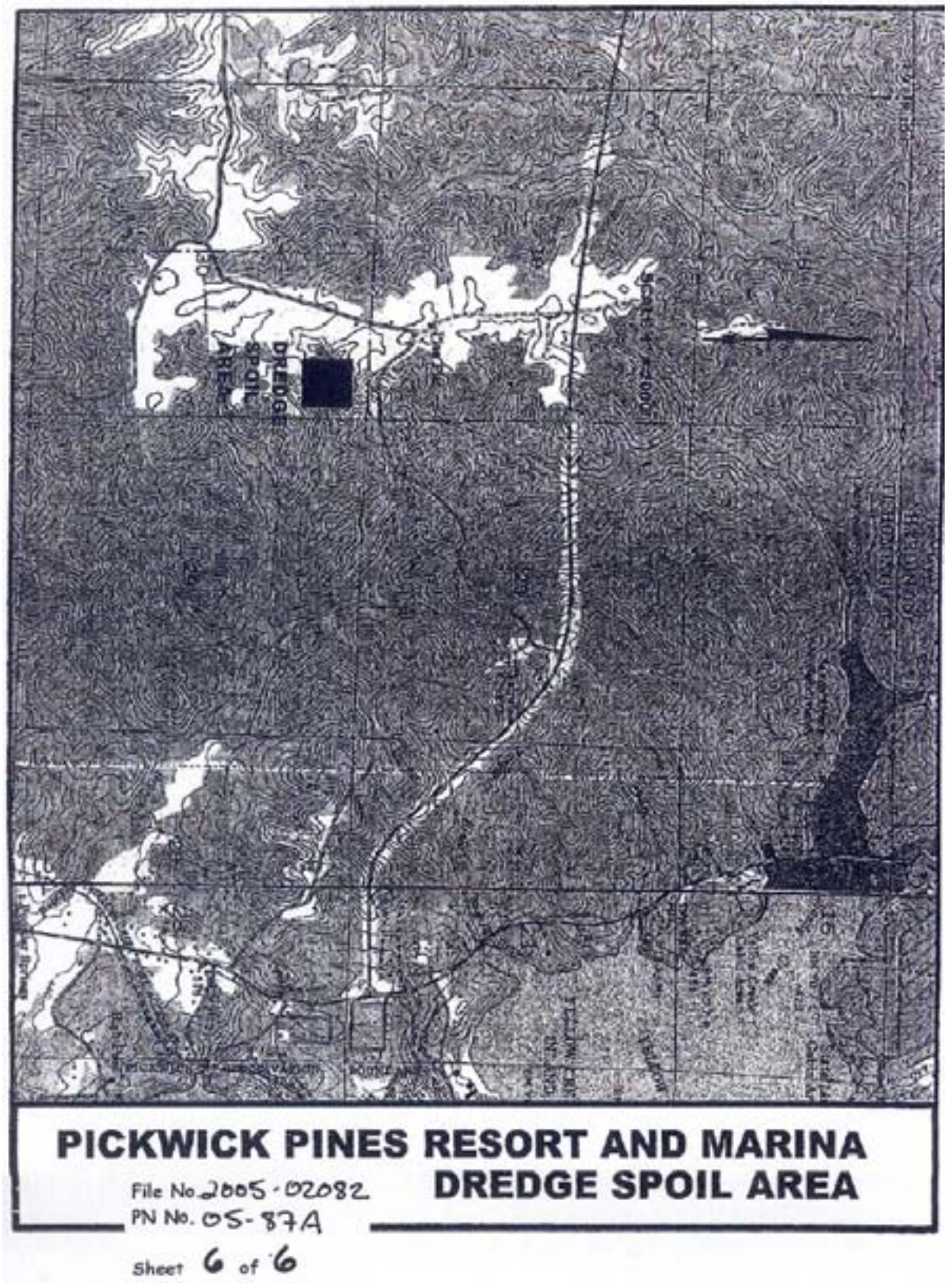
Sheet 1 of 6
TENNESSEE - TOMBIGBEE WATERWAY
PICKWICK PINES RESORT AND MARINA
VICINITY MAP


LEGEND
A - SHIP STORE
B - RESTAURANT
C - POOL
D - DRY STACK STORAGE & BULKHEAD
E - VILLAS
F - FUEL DOCK
G - GOLF CART STORAGE
H - FUEL TANKS
J - 12 FOOT TRAIL
K - 12 FOOT WOOD DECK
L - VILLA DOCKS
M - WALKWAY
N - BOAT RAMP
- DREDGING AREA
Proposed Harbor Limit
DOLPHIN
MS HWY. 25
PARKING
PARKING
PARKING
SUMMER POOL - 414'
ERGON PIPE
File No. 200502082
PN No. 05-87A
Sheet 2 of 6
Pickwick Pines Resort and Marina
Project Layout


LOCATION OF CROSS SECTION - SEE ATTACHMENT 6
SUMMER POOL - 414'
SHORE TO END OF MARINA - 772'
File No. 2005-02082
PN No. 05-874
Sheet 3 of 6


Pickwick Pines Resort and Marina
Fuel Dock
Sheet 4 of 6
File No. 2005 00082
PN No. 05-874
PLAN VIEW OF FUEL DOCK
SUMMER POOL - 414'
Transit Dock
Fuel Dock
Store
Jet Ski
Pads
132'
70'
10'
12'
22'
30'
22'
10'
10'


Pickwick Pines Resort and Marina
BOAT RAMP
SIDE VIEW
Lake Bottom
Winter Pool - 409
Summer Pool - 414
TOP VIEW
Lake Bottom
Winter Pool - 409
Summer Pool - 414
File No. 200502082
PN No. 06-37A
Sheet 5 of 6.
BULKHEAD
SIDE VIEW
Lake Bottom
Winter Pool - 409
Summer Pool - 414
Top of Bulkhead - 416
TOP VIEW
Bulkhead
Shoreline


DREDGE SPOIL AREA
PICKWICK PINES RESORT AND MARINA
DREDGE SPOIL AREA
File No. 2005-02082
PN No. 05-87A
Sheet 6 of 6

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APPENDIX B – FINAL ENVIRONMENTAL ASSESSMENT

TISHOMINGO COUNTY DEVELOPMENT FOUNDATION
REQUEST FOR LONG-TERM TENURE COMMERCIAL RECREATION EASEMENT
TRACT NO. XPR-460RE
DECEMBER 2000

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FINDING OF NO SIGNIFICANT IMPACT

PROPOSED RECREATION EASEMENT TO TISHOMINGO COUNTY DEVELOPMENT FOUNDATION

TRACT NO. XPR-460RE
PICKWICK RESERVOIR
TISHOMINGO COUNTY, MISSISSIPPI

BACKGROUND

The Tishomingo County Development Foundation (TCDF) has requested a commercial recreation easement over 31 acres of TVA land on Pickwick Reservoir. If the easement was approved by TVA, TCDF would construct a convention center, rental cabins, and a marina. A conceptual plan for these facilities was submitted. When the final configuration of the marina and boat slips is known, TVA would review the final plan under Section 26a of the TVA Act. TVA has prepared an Environmental Assessment (EA) to assess the environmental consequences of the TCDF development and to assist its decision making on this matter. The Draft EA was distributed for review to federal and state agencies and the public in September 2000. Comments were received from the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (FWS), Tennessee Conservation League (TCL), and four individuals.

USACE indicated that marina facilities would require a permit under Section 10 of the Rivers and Harbors Act of 1899 in addition to a permit under Section 404 of the Clean Water Act. They also requested that the concept plan be included in the EA, and that more information be included on the issue of boat traffic congestion and erosion. This information was added to the Environmental Assessment (EA).

FWS was concerned about the amount of commercial development proposed, which would tend to eliminate all of the wildlife habitat of the area and affect water quality and aesthetics. Additional information was added to the EA to clarify the cumulative effects of the proposal and to recognize the footprint of the facility in relation to the total tract of land to be under easement. Also, the water quality impacts of the marina and aesthetics of the proposed facilities were addressed by modification of the EA.

TCL expressed concerns about the characterization of public opposition, the loss of informal recreation opportunities, cumulative impacts, and lack of data collected on boat traffic, water quality, noise, traffic, and wildlife habitat. The EA was revised to respond to these comments. TCL also recommended that the Pickwick Reservoir Land

Management Plan be updated before further changes in land use designations were considered. In addition, TCL requested that a no net loss proposal be developed to address the loss of land available for informal recreation and natural resource purposes. The EA was revised to respond to these comments. TVA is planning to update the Pickwick Reservoir Land Management Plan in the next fiscal year. Because portions of this land were already considered transferred for a roadside park and the other portion is a narrow strip of forest (totaling 15.5 acres) between Mississippi State Route 25 and the water, TVA does not believe that there would be a significant loss of public lands for informal recreation as a result of this proposal. Accordingly, TVA does not plan to require a "no net loss" proposal from TCDF.

Concerns of individuals focused on the potential for additional development on the reservoir and the potential for boat congestion, erosion, and water quality impacts from the proposed conference center and marina development. As indicated above, the EA was changed to respond to these comments.

ALTERNATIVES

In the EA, TVA considered two alternatives, No Action and the Proposed Action. Under No Action, the property would remain undeveloped. A portion of the property has previously been used as a roadside park, but these facilities have been removed. In addition, TVA would not issue Section 26a approvals associated with marina and boat slips. Under the Proposed Action, a commercial recreation easement would be granted to the 423-foot contour on the Yellow Creek embayment at mile 448.4, right bank, of the Tennessee-Tombigbee Waterway. Allocations in the Pickwick Reservoir Plan of 1981 would be changed to be consistent with the easement. In addition, Section 26a applications would be considered for the marina, boat slips, and other facilities proposed below the 423-foot contour, upon receipt of more detailed plans consistent with the conceptual plan evaluated in the EA.

IMPACT ASSESSMENT

The attached EA concludes that there would be no significant impacts to air quality, rare species, terrestrial ecology, navigation, or noise under the action or no action alterative. As additional environmental safeguards, under the proposed action, TVA would require shoreline and woodland buffers to be maintained around the perimeter of the property. Best Management Practices would be required for construction, and shoreline stabilization would emphasize bio-engineering methods. Buildings would be required to blend into the aesthetics of the surrounding area. In addition, entrance and exit roads would be designed to allow for safe turning maneuvers into and out of the facility. Marina plans would be required to include sewage pump-out facilities with spill-proof connections. Any above ground or underground storage tanks would also be required to have secondary containment and a spill prevention, control, and countermeasures plan. Final site development and marina development plans would be subject to TVA approval. The EA is attached and incorporated by reference.

-2-

CONCLUSION AND FINDINGS

Following notification and consultation with consulting parties, the Mississippi State Historic Preservation Officer, and the public, TVA concludes that no historic properties would be affected. Based on the EA, TVA concludes that the proposed recreation easement to Tishomingo County would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required. This FONSI is contingent upon successful completion of the commitments contained in Section 6.0 of the attached EA.

Jon M. Loney, Manager
NEPA Administration
Environmental Policy and Planning
Tennessee Valley Authority

Dec 11, 2000
Date

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FINAL ENVIRONMENTAL ASSESSMENT

Tishomingo County Development Foundation
Request for Long-Term Tenure Commercial Recreation Easement
Tract XPR-460RE

PICKWICK RESERVOIR

TENNESSEE VALLEY AUTHORITY
December 2000

For more information, please contact:
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Pickwick Watershed Team
P. O. Box 1010
Muscle Shoals, Alabama 35662
(256) 386-3457

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TABLE OF CONTENTS

List of Figures

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Background

Pickwick Reservoir is an impoundment of the Tennessee River formed by Pickwick Dam which is located at Tennessee River Mile (TRM) 206.7 in Hardin County, Tennessee. Pickwick Reservoir is located in parts of three states - Alabama, Mississippi, and Tennessee. TVA originally acquired 63,625 acres of land for construction of the reservoir which was begun in December 1934 and completed in February 1938. TVA has retained 17,358 acres of land lying above full pool elevation. At full pool, the reservoir is 52.7 miles long, shoreline length is 490.6 miles, and surface area is 43,100 acres.

The Tishomingo County Development Foundation (TCDF) has requested long-term tenure for 31 acres in two tracts (Tract E and Tract 11, now combined as Tract XPR-460RE) on the Yellow Creek Embayment at mile 448.4R on the Tennessee-Tombigbee Waterway. TCDF has requested the property for development of commercial recreation facilities (see Figure 1). Tract XPR 460RE is composed of two TVA properties, i.e., Tract E, 15.5 acres (also identified as XPR 393RE), and Tract 11, 15.5 acres (see Figure 2). Tentative plans for the proposed action include a convention center, a marina, cabin sites, and covered boat slips (see Figure 3). This conceptual drawing generated by TVA staff is a very abstract plan view of the site, similar to an artist's rendition, and was used only for general analysis purposes. The intent of this conceptual plan view was to determine the site's feasibility to accommodate the proposed facilities and necessary infrastructure within the 31 acres and does not constitute a formal and/or approved plan. TCDF would solicit proposals for actual design, construction, and operation of the facilities.

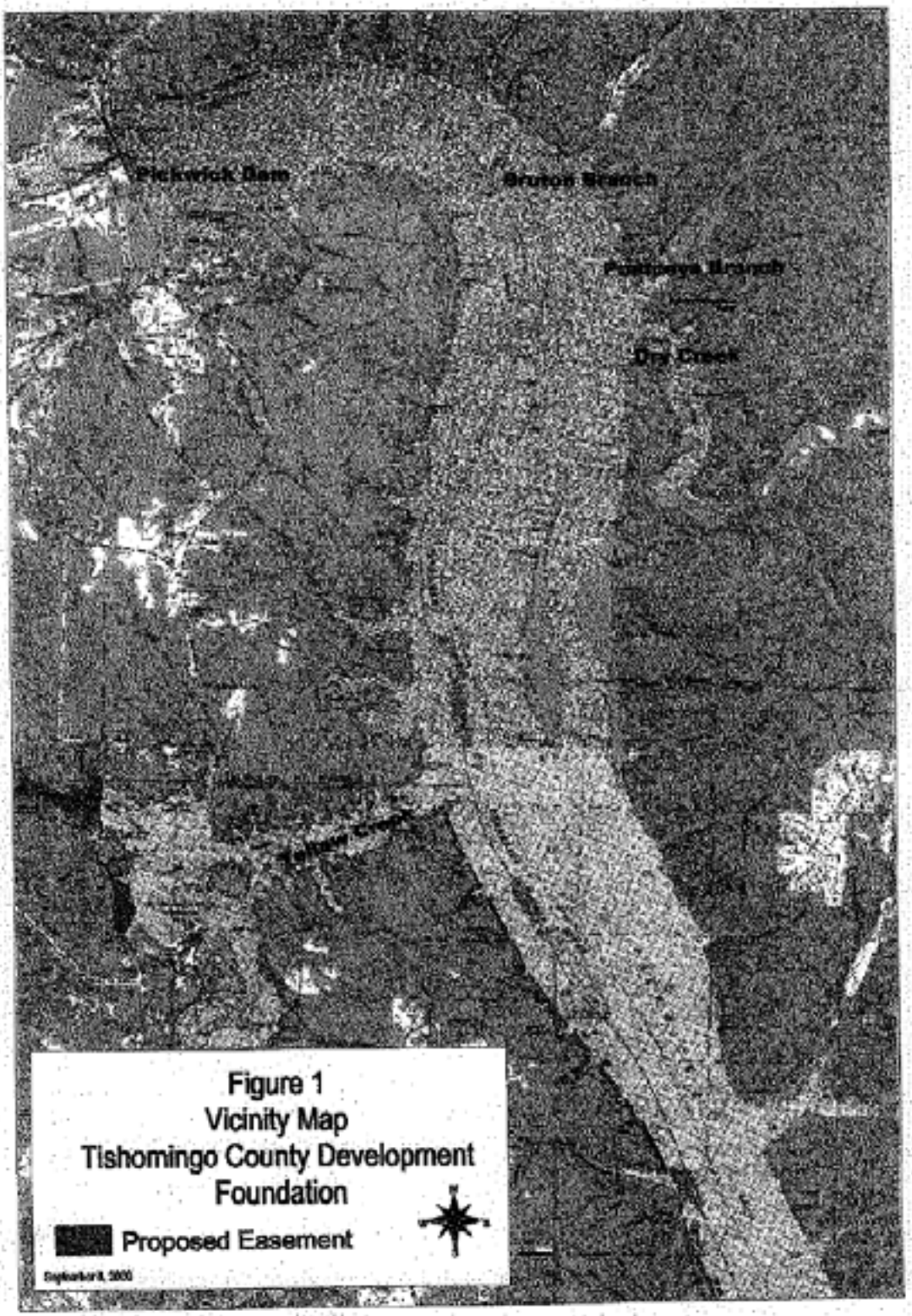
Tract E (XPR 393RE) has previously been used as a roadside park by the Mississippi Department of Transportation. Recreation facilities consisted of pavilions, restrooms, and picnic areas. Due to chronic vandalism and maintenance costs of these facilities, the state decided to no longer maintain this area. In June 2000 the state of Mississippi quitclaimed this property to TVA after discontinuing its use as a roadside park.

Tract 11 was allocated to the following land use categories in the 1981 Pickwick Reservoir Plan: Forest Management and Navigation (Minor Commercial Landing). No requests have been received for the use of Tract 11 for minor commercial landing since the Plan was adopted in 1981. The navigation program has reviewed the use of Tract 11 and does not object to removing Navigation (Minor Commercial Landing) from the tract allocation.

1.2 The Decision

The decision before TVA is whether or not to approve the proposed long-term tenure easement and modify the Pickwick Reservoir Land Management Plan so that TCDF can pursue commercial recreation development opportunities.

Final Environmental Assessment



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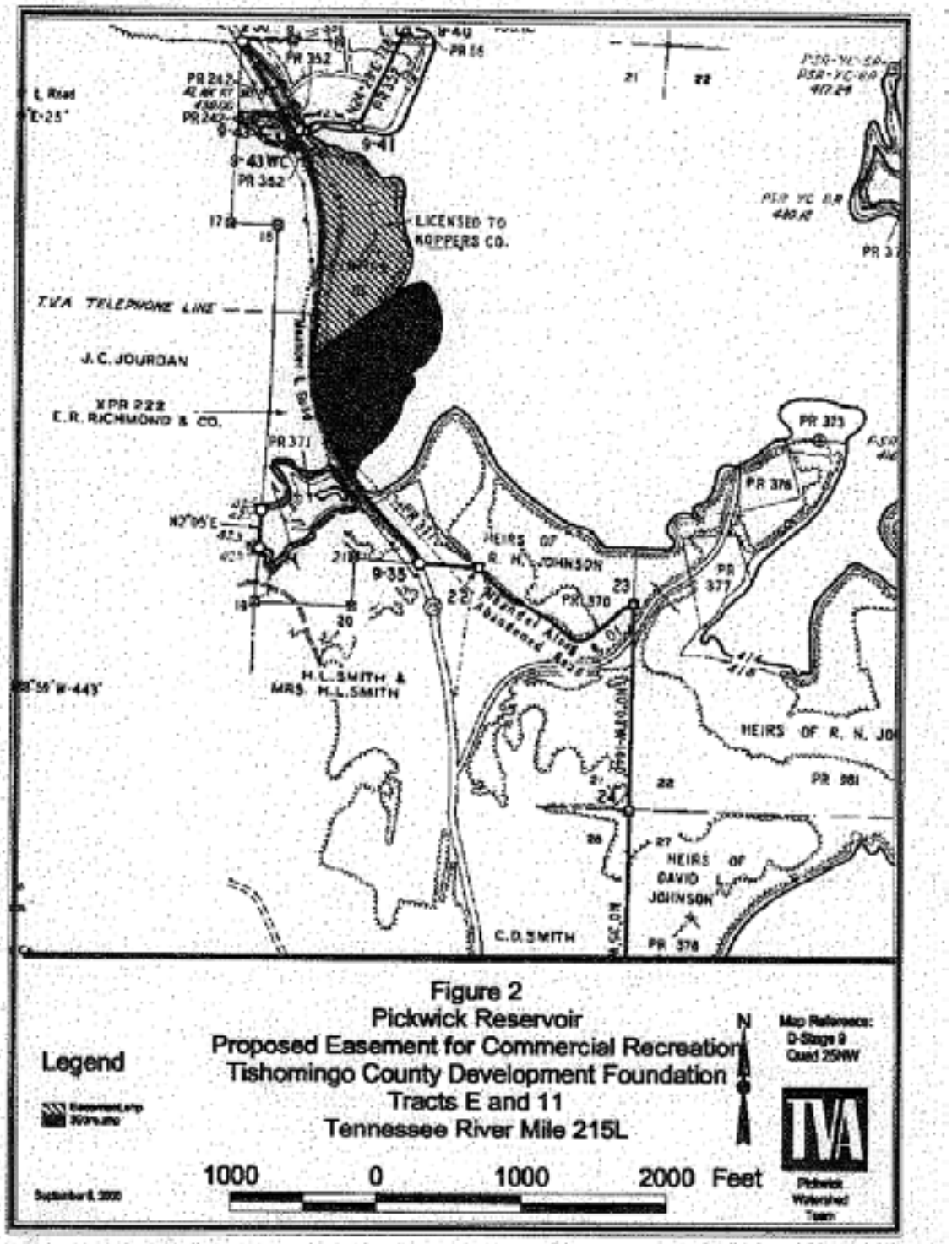
Final Environmental Assessment



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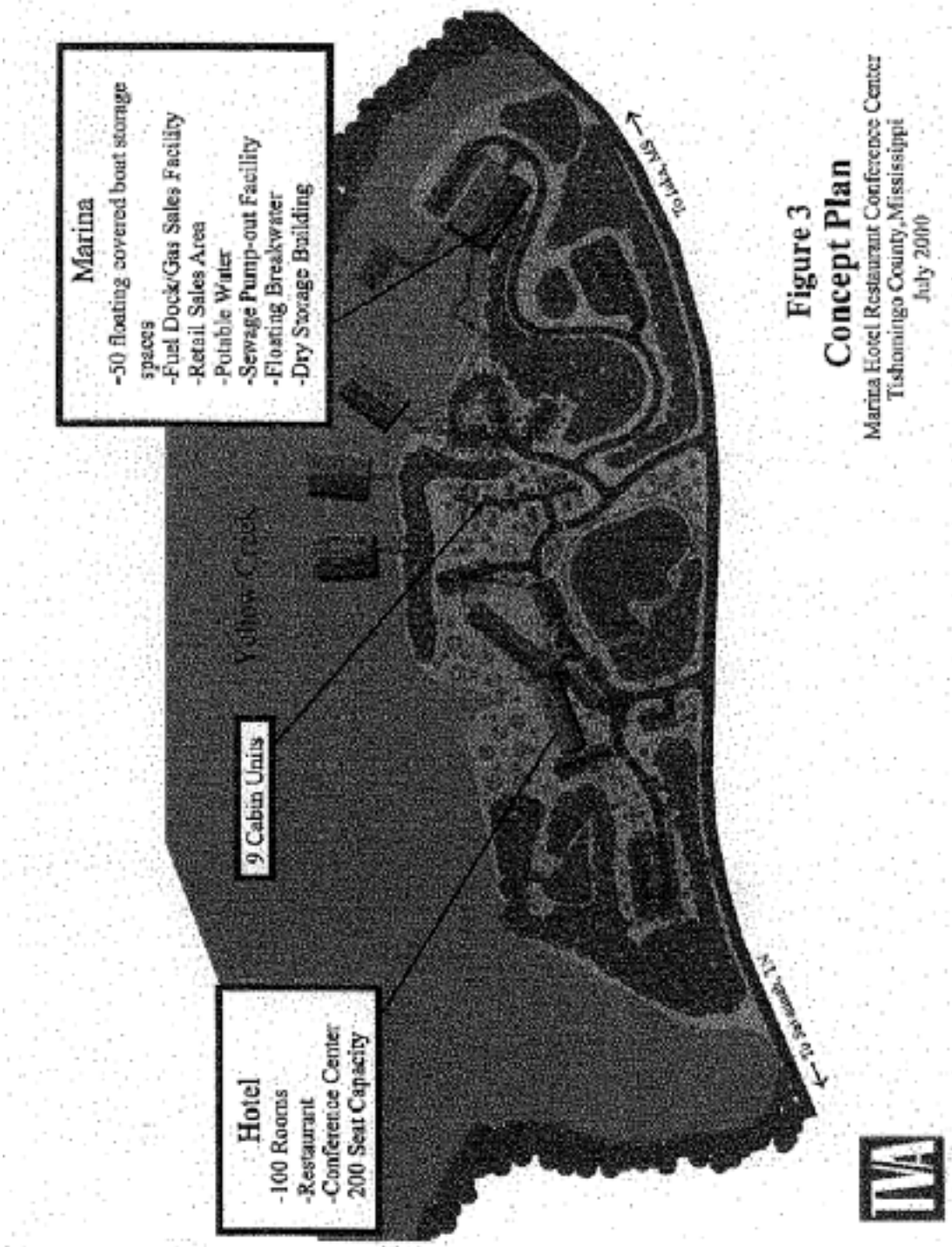
Final Environmental Assessment



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TVA has prepared an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to assess the impacts of its proposed decision.

1.3 Scoping and Issue Identification

1.3.1 Scoping

TVA began the NEPA process with a news release and paid advertisements in local newspapers in July 2000 announcing a public meeting on July 14, 2000, to solicit input. The paid advertisements and the news release were sent to the following media sources:

The Northeast Mississippi Daily Journal - Tupelo, Mississippi
The Tishomingo County News - Iuka, Mississippi
The Commercial Appeal - Memphis, Tennessee
The Courier - Savannah, Tennessee

Opportunities for the public to make comments included attending the public meeting and/or calling or sending written comments to the Pickwick Watershed Team. A public meeting was held on July 14, 2000, from 4 p.m. to 8 p.m. at the Pickwick Landing State Park and 37 people attended. The majority of comments received at the public meeting were in support of the project. Environmental concerns stated were water pollution from fueling facilities, boating congestion in the area, and sewage disposal. Additionally, several comments were received at the Pickwick Watershed Team office in Muscle Shoals. The public had until July 31, 2000, to call in or mail in written comments.

Comments in support of the commercial development generally stated "this project will be of great economic value to the county and surrounding counties. It would also provide tax revenue for the county and state and revenue for the Foundation to carry out its mission in the county. Also, there is no place in the county for more than 40 or 50 people to have a meeting which would include food and lodging. This project would provide at least 100 rooms and a convention center seating approximately 200 people and a restaurant."

Comments opposed to the commercial development included concerns in regards to pollution from spills when fueling and sewage pumpouts at the marina(s) and boating congestion. Those opposed expressed the issues and concerns listed in Table 1.3-1.

In total, comments were received from 21 people on the TCDF proposal throughout the public scoping period. Seven people were in favor of the proposal and 15 people were opposed. Additionally, 10 people provided comments on a log sheet.

Table 1.3-1 Issues Identified During Public Scoping

Number of people	Issue
10	Boating congestion and water safety
7	No marina or hotel
7	Too many marinas in the area already
6	Visual - Loss of scenic forested area
3	Shoreline erosion from boat wakes
3	Water quality - pollution from marina
4	Loss of habitat for terrestrial animals including bald eagles and blue herons
3	Increase of vehicle traffic on Highway 25
2	Noise pollution from additional boats
2	No more development
1	Adversely affect private property values
1	Loss of aquatic habitat in coves
1	Competition with J. P. Coleman State Park

1.3.2 Identification of Environmental Issues

Information collected through public scoping and internal agency review was used to identify the following important issues to be included in the environmental review:

- Air Quality
- Flora
- Fauna
- Water Quality
- Aquatic Ecology
- Wetlands
- Floodplains
- Socioeconomic Environment (including Property values)
- Land Use
- Cultural/Historic Resources
- Visual Resources
- Navigation
- Recreation

1.3.3 Draft Environmental Assessment (DEA)

Copies of the DEA were mailed to interested intergovernmental agencies and individuals. The U. S. Army Corps of Engineers, U. S. Fish and Wildlife Service, Tennessee Conservation League, and four individuals provided written comments. The comments received and responses are included in Appendix B.

1.4 Cooperating Agencies

TVA is the lead federal agency for this EA primarily because of the need for land-use change consideration which does not involve other federal agencies.

1.5 Related Environmental Documents

1.5.1 Pickwick Reservoir Plan

In 1961 TVA completed the Pickwick Reservoir Plan (TVA, 1961). This plan designates Pickwick Reservoir lands for a variety of single and multiple land uses. It allocates 17,370 of public land around Pickwick Reservoir for wildlife management, forest management, recreation, cultural resource management, agriculture, navigation, visual protection, open space, special management areas, and industry.

1.5.2 Shoreline Management Initiative (SMI): An Assessment of Residential Shoreline Development Impacts in the Tennessee Valley

In 1999 TVA completed an environmental impact study (EIS) on residential shoreline development impacts throughout the Tennessee Valley (TVA, 1999a). The Record of Decision (ROD) for SMI was signed on May 24, 1999. Under the Blended Alternative adopted in the ROD, sensitive natural and cultural resource values of reservoir shorelines would be conserved and retained in three ways. These include:

1. Preparing a shoreline categorization for individual reservoirs;
2. Encouraging voluntary donations of conservation easements to properties over which TVA holds a flowage easement (i.e., property over which TVA has the right to flood) or other shoreland to protect scenic landscapes; and,
3. Establishing a premise that no additional residential access rights will be granted across public shorelines unless a "maintain and gain" policy to prevent losses of public shoreline is implemented.

1.6 Necessary Federal Permits or Licenses

Future construction of water-use facilities, shoreline stabilization, and wetland alterations would require permits from the U. S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act and from TVA under Section 26a of the TVA Act. Wastewater discharges would require a National Pollutant Discharge Elimination System (NPDES) permit from the Mississippi Department of Environmental Quality. NPDES stormwater construction permits are required for activities involving soil disturbance greater than one acre.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

The two alternatives that have been identified are described in this chapter. Alternative A is the No Action Alternative and Alternative B is The Proposed Action. If Alternative B is selected, a 40-year commercial recreation easement with the option to renew for another 40 years would be granted to TCDF.

2.1 Alternative A: No Action

Under the No Action Alternative, no change would be made to the use of this property. It would remain as undeveloped property and it would be available to the public for informal recreational use. Tract E has previously been used as a roadside park, but facilities associated with that development have been removed. Tract 11 would remain undeveloped and managed for the multiple uses of Forest Management and Navigation (minor commercial landing).

2.2 Alternative B: The Proposed Action

The Proposed Action is to grant a long-term tenure commercial recreation easement for Tracts E and 11 (as designated in the Pickwick Reservoir Land Plan-1981) to the 423-foot contour on the Yellow Creek embayment at mile 448.4R on the Tennessee-Tombigbee Waterway. TCDF has requested the property for development of commercial recreational facilities that could include a commercial marina, restaurant, lodging, and related facilities. Under this alternative, the land use for Tract E would remain recreation and the land use for Tract 11 would be allocated for Forest Management and Recreation.

2.3 Comparison of Alternatives

Under Alternative A, there would be no change in land use activities and no additional impacts are anticipated to:

- air quality,
- the general flora of the region,
- federal- or state-listed plant species,
- wildlife or threatened or endangered species of wildlife on the parcel,
- aquatic ecology,
- water quality,
- floodplains,
- navigation, and
- historic properties.

Wetlands would probably expand slowly due to natural sedimentation in the back of embayments and subsequent establishment of wetland type vegetation. Shoreline erosion would continue, thus, increasing the exposed bank height and probably dislodging trees from the steep slopes which could increase visual discord over time, further reducing the scenic attractiveness and visual coherence. There would be no change in public recreation opportunities and their availability would continue to

enhance the quality of life in the area. There would be a slight increase in traffic over time due to the natural growth of the area, but these impacts would be insignificant.

Under Alternative B, there would be no significant impacts to:

- local or regional air quality,
- state or regional flora,
- federal- or state-listed plant species,
- terrestrial animal communities,
- federal-listed species of wildlife or their habitat,
- sensitive aquatic animals,
- wetlands,
- historic properties,
- commercial navigation traffic, and
- noise.

Soil disturbances, removal of the tree canopy, and improper use of herbicides, could result in adverse water quality and aquatic impacts. These potential impacts will be minimized to insignificant levels by the implementation of commitments in the easement agreement (see Section 6.0). The construction of commercial water-use facilities could result in minor floodplain impacts. To ensure the proposed action would have no adverse affect on floodplains and flood control, commitments have been included in Section 6.0. Visual impacts of development would be insignificant, provided the mitigation commitments for visual resources in Section 6.0 are incorporated. The new marina would likely increase boating traffic in the immediate area during the summer recreation season. New development could be beneficial to the site in that it may minimize the vandalism that has occurred at the roadside park in the past and provide vessel operators with another option regarding fueling and related services. An increase in traffic on the adjacent roadway network would be generated, but would not result in a change to the existing service level of State Route 25/57 and the effect would be insignificant. Based on the small, potential increase in recreational boating activity, the likelihood of continuing regional development, and the current ambient noise levels, the potential impact on the total noise environment is insignificant. This development could result in positive effects on the local economy both during construction and in operation by increasing employment and income in the local area, and if properly developed, maintained, and marketed, could be an important element in the economic development of the area.

There would be no disproportionate impacts to minority or low-income populations under either of the alternatives.

2.4 Preferred Alternative

TVA has selected Alternative B as the preferred alternative. Adoption of this alternative would not result in any adverse or significant impacts and would provide greater recreation opportunities to the area.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

The location of the proposed recreation tracts are shown in Figure 2. Tracts 11 and E are within Tishomingo County, Mississippi, on the Yellow Creek Embayment at mile 448.4 on the Tennessee-Tombigbee (Tenn-Tom) Waterway.

3.1.1 Description of Property

Tract E, which contains 15.5 acres and 1,827 feet of shoreline at normal summer pool, has been used previously as a roadside park under a long-term tenure easement to the Mississippi Department of Transportation. Recreation facilities consisted of pavilions, restrooms, and picnic areas. The restroom and picnic facilities were removed when the state of Mississippi quitclaimed this property to TVA after discontinuing its use as a roadside park. Existing facilities include a paved access road and a picnic pavilion. Water and electrical utilities are available at the site.

Tract 11 contains 15.5 acres and 1,563 feet of shoreline at normal summer pool. This tract is currently managed as Forest and General Forest Management and Navigation, Minor Commercial Landing under the Pickwick Reservoir Plan.

3.2 Terrestrial Environment

3.2.1 Air Quality

AFFECTED ENVIRONMENT

National Ambient Air Quality Standards establish concentration limits in the outside air for six pollutants: particulate matter, sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, and lead. These standards are designed to protect public health and welfare. An area where any air quality standard is violated is designated as a nonattainment area for that pollutant, and emissions of that pollutant from new or expanding sources are carefully controlled. The subject tracts are not in or near any nonattainment areas.

In addition, Prevention of Significant Deterioration (PSD) regulations address air quality in attainment areas and in national parks and wilderness areas that are designated PSD Class I areas. A new or expanding major air pollutant source is required to estimate potential impact of its emissions on air quality, including that of any nearby Class I area, as specified by the state or local air regulatory agency with input from the Federal Land Manager(s) having jurisdiction over the given Class I area(s). The closest PSD Class I area is the Sipsey Wilderness Area in northwestern Alabama about 60 miles (97 kilometers) distant.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, no new air quality emissions are expected because of no change in land use activities. For Alternative B, potential impacts on air quality would be limited to activities associated with the development and operation of the commercial recreation facilities. Pollution from fossil-fuel combustion by vehicles and equipment, fugitive dust emissions during dry conditions, and increased traffic during construction activities would cause some minor and temporary air quality degradation in the vicinity of the reservoir. However, state air pollution rules require use of reasonable precautions to prevent fugitive dust emissions. After construction is completed, normal commercial recreation activities such as restaurant operation, use of fireplaces and picnic facilities, operation of motorboats and fuel-burning groundskeeping equipment along with increased motor-vehicle traffic would contribute to minor impacts on local air quality, but would have little or no impact on regional air quality. These impacts would be so minor that no significant cumulative impacts would occur for air quality, including ozone acid deposition, and haze. Therefore, the local or regional air quality would not be significantly deteriorated.

3.2.2 Flora

AFFECTED ENVIRONMENT

The site is dominated by moderate- to mature-aged oaks and hickory trees (*Quercus* and *Carya* sp.) along the ridges of the project with tulip trees (*Liriodendron tulipifera*) and sweet-gums (*Liquidambar styraciflua*) replacing the hickories along the two ravines. Most of the hardwoods in the site are estimated to be older than 30 years of age with some of the more mature individual trees estimated to be over 70 years of age. Sourwood (*Oxydendrum arboreum*), black gum (*Nyssa sylvatica*), serviceberry (*Amelanchier arborea*), and flowering dogwood (*Cornus florida*) are the predominant understory throughout the site. Poison ivy (*Toxicodendron radicans*), muscadine grape (*Vitis rotundifolia*), Japanese honeysuckle (*Lonicera japonica*), and Christmas fern (*Polystichum acrostichoides*) are noticeable along the ridges. Royal fern (*Osumnda regalis*), climbing hydrangea (*Decumaria barbara*), bloodroot (*Sanguinaria canadensis*), and small green wood orchid (*Platanthera clavellata*) are common in the ravines on the site. Most of the banks are highly eroded and have little or no vegetation on them. Water willow (*Justicia americana*), tag alder (*Alnus serrulata*), and black willow (*Salix nigra*) are growing in Tanford Branch at the south end of the site. No uncommon communities are present on the site.

A review of the TVA heritage database indicates that there are no federal-listed plant species known from Tishomingo County, Mississippi. The database also indicates that there are 79 state-listed plant species known from the county, 55 of which are reported from within five miles of the project. A survey of the site indicated favorable habitat for two of the 55 species. The typical habitat for these two species, pipsissewa (*Chimaphila maculata*) and Virginia pine (*Pinus virginiana*) is upland woods over sandstone substrate. A field inspection indicated that these species are not present despite the presence of apparently suitable habitat.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, Tract 11 would continue to be a wooded area for Forest Management and General Forest Management in accordance with the Pickwick

Reservoir Plan and Tract E would continue to be considered available for public recreation opportunities. No significant impacts are anticipated to the general flora of the region or to federal- or state-listed species from adopting this alternative.

Under Alternative B, the vegetation would be eliminated where buildings, roads, and related structures would be placed. Grading and fill would be placed into low areas in the site. Because the existing vegetation is relatively abundant in the vicinity and no uncommon communities occur on the tract, no significant impacts to the state or regional flora are expected. Because no federal- or state-listed species occur on the tract, no impacts to such species are expected.

3.2.3 Fauna

AFFECTED ENVIRONMENT

The proposed project area consists of a typical upland hardwood forest dominated by scarlet and white oak mixed with some pine and shagbark hickory of small diameter. Wildlife in this habitat is abundant locally and regionally. Species observed at the site include wild turkey, common crow, chickadee, downy woodpecker, yellow-billed cuckoo, red-eyed and white-eyed vireo, red-tailed hawk, great blue heron, and green-backed heron. Other species commonly found in this habitat include gray squirrel, eastern chipmunk, opossum, white-tailed deer, fence lizard, and broad-headed skink. There are no uncommon habitats on the project lands.

Twenty-three species currently tracked by the Mississippi Natural Heritage Program as being uncommon in Mississippi are reported from the area. Most of the existing records are from Tishomingo State Park, south of the project area. Seven of the 23 species are reported from localities within 5 miles of the project site. These species include mole kingsnake (*Lampropeltis calligaster rhombomaculata*), black kingsnake (*Lampropeltis getula nigra*), Ouachita map turtle (*Graptemys ouachitensis*), southern coal skink (*Eumeces anthracinus pluvialis*), mountain chorus frog (*Pseudacris brachyphona*), and red salamander (*Pseudotriton ruber*). An active osprey (*Pandion haliaetus*) nest was observed 1.0 miles from the project site in a residential area.

A review to the TVA Regional Natural Heritage databases indicates that nine listed species of animals are reported from Tishomingo County. Four of the listed species, the bald eagle (*Haliaeetus leucocephalus*), red-cockaded woodpecker (*Picoides borealis*), gray bat (*Myotis grisescens*), and Indiana bat (*M. sodalis*) are federally protected. The remaining state endangered species include northern long-eared bat (*Myotis septentrionalis*), Bewick's wren (*Thryomanes bewickii*), cave salamander (*Eurycea lucifuga*), spring salamander (*Gyrinophilus porpyriticus*), and green salamander (*Aneides aeneus*).

Nesting bald eagles, listed as federally threatened, have been reported from the Tennessee-Tombigbee Waterway and from several localities along Pickwick Reservoir. No nests are known from the vicinity of the proposed project. Red-cockaded woodpeckers have been reported near Tishomingo State Park; however, these colonies are no longer active. Federal endangered gray and Indiana bats and state-endangered northern long-eared bats have been reported from an abandoned Chalk Mine in nearby Bear Creek Embayment (Kennedy et. al., 1974; La Val, 1967; White, 1961; Wolfe,

1971). The mine was surveyed extensively in 1990 to determine its use by gray bats, Indiana bats, and northern long-eared bats, but the investigators found no evidence of these species using the cave in recent years (Best and Caesar, 1990).

Bewick's wren, cave salamander, spring salamander, and green salamander have also been reported from Tishomingo County. A historical record (>60 years) of Bewick's wren was reported from a bluff on the Bear Creek Embayment. Suitable habitat for Bewick's wren does not exist at the project site. Cave, spring, and green salamanders have been reported from Tishomingo State Park and Cave Spring Cave on the Natchez Trace, south of the project area. No suitable habitat for cave salamanders exists on the site. Limited habitat for spring and green salamanders exists in the project area.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, the property would remain undisturbed and there would be no impacts to wildlife on the parcel. There would be no impacts to threatened or endangered species of wildlife.

Under Alternative B, the site would require extensive grading due to the steepness of the property. Forested areas on the parcel would be removed and the terrain extensively modified. The proposed activity would result in some direct mortality of slower, less mobile wildlife species. Because of the regional abundance of the wildlife found on this parcel, impacts from the proposed project would not result in significant adverse impacts to terrestrial animal communities.

No active heron colonies are known from the vicinity, however, herons regularly forage along the shoreline at the project site and in the Yellow Creek Embayment. Adoption of Alternative B would result in removal of some upland habitats and would allow the construction of water-use facilities at the project site. However, TVA would require the use of forested buffer zones and vegetation management zones as described in the Shoreline Management Initiative to reduce impacts to the shoreline. Construction of the proposed facility is not expected to adversely affect herons. Great blue herons will continue to forage in the Yellow Creek Embayment and along the shoreline at the project site.

Small amounts of potential habitat suitable for uncommon species listed by the Mississippi Natural Heritage exists on the site. Habitats found on the project site are common throughout the vicinity. Adoption of Alternative B is not expected to result in adverse impacts to populations of uncommon species or their habitat.

Adoption of Alternative B would not affect federally-listed species of wildlife or their habitat. No suitable habitat for red-cockaded woodpeckers exists on the project site. Bald eagles are occasionally observed in the Yellow Creek Embayment during winter and summer months. However, no nesting activity takes place at the project site or in the immediate vicinity. Bald eagles will continue to forage in the Yellow Creek Embayment. No suitable habitat for gray or Indiana bats or state protected species, such as caves, exists on the project site. Forested portions of the tracts do not have an extensive, open mid-story or adequate species composition to provide optimum summer habitat for Indiana bats. Therefore, adoption of Alternative B would not result in adverse impacts to populations of federal- or state-protected species of wildlife or their habitat.

Cumulative impacts to terrestrial animals and their habitats are expected to be insignificant. Approximately 23.55 miles of TVA-owned shoreline in the Yellow Creek Embayment is being used for Natural Resources Conservation and Public Recreation. These areas make up 56% of the total shoreline in the Yellow Creek Embayment (see section 3.4.2). The proposed project would involve 0.6 miles of this shoreline. Considering the amount of remaining habitat in the Yellow Creek Embayment, impacts to terrestrial animals and their habitats are considered insignificant.

3.3 *Aquatic Environment*

3.3.1 Water Quality

AFFECTED ENVIRONMENT

The site drains to the Yellow Creek embayment of Pickwick Reservoir on the Tennessee River. Precipitation averages about 50 inches per year with the wettest month in March and the driest month in October. Runoff varies with rainfall and averages about 20 inches per year. Streams draining to the Yellow Creek embayment are classified by the Mississippi Department of Environmental Quality for aquatic life support. Streams in the Yellow Creek drainage area are listed on the state 303 (d) list as "evaluated waterbodies" due to pesticides, nutrients, siltation, organic enrichment-low dissolved oxygen.

According to the 1998 TVA Vital Signs Monitoring Results, overall ecological conditions in Pickwick Reservoir are good. Most indicators used to evaluate ecological conditions rated good or fair at all locations. Fecal coliform samples collected at 10 locations in the reservoir (including one location in the Yellow Creek embayment) were within the state water quality criteria. A screening level assessment of water quality conditions at three locations in the Yellow Creek embayment was conducted monthly from July through September 1999. All three sites were highly productive and could be considered eutrophic as indicated by high chlorophyll concentrations (averages from 14 to 21 ug/L). Nutrient levels in the embayment were similar to those found throughout Pickwick Reservoir. Mean embayment values were 0.4 mg/L for total nitrogen; 0.04 mg/L for total phosphorus; and 3.2 mg/L for total organic carbon. Two of the three Yellow Creek sites had dissolved oxygen concentrations below 5.0 mg/L at deeper strata in at least one of the months sampled. None of the sites had dissolved oxygen concentrations less than the state criteria of 5.0 mg/L at the 1.5 m depth. Water temperatures did not vary much from top to bottom, indicating minimal stratification. All sites had temperatures exceeding 30 °C at most depths during July.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, the property would remain undisturbed. Consequently, there would be no impacts to water quality in the area.

Under Alternative B, soil disturbances associated with access roads or other construction activities can potentially result in adverse water quality impacts. Erosion and sedimentation can clog small streams and threaten aquatic life. Removal of the

tree canopy along stream crossings can result in increased water temperatures and adverse impacts to aquatic biota. Improper use of herbicides to control vegetation could result in runoff to streams and subsequent aquatic impacts. Appropriate precautions (see Section 6.0, Commitment 11) will be taken to minimize these potential impacts. Fueling and sewage pumpout facilities at the marina can potentially result in leaks or spills to the lake. In addition to state and federal regulations to control potential receiving water impacts, TVA will require that all sewage pump-out facilities and appurtenances have spill-proof connections, no overflow piping, and failure alarms. TVA will require that underground storage tanks containing regulated substances such as petroleum products have secondary containment, anchorage to prevent floating during flooding, and a spill prevention, control, and countermeasures plan. Above ground storage tanks would be required to be installed and maintained in compliance with applicable AST requirements. With the application of the measures identified in Section 6.0, potential effects to water quality would be insignificant.

Cumulative water quality impacts are not expected to be significant. With the proposed project, only about three percent of the shoreline in the Yellow Creek embayment will be devoted to marinas and their associated commercial development. Based on the pollution controls to be employed and the anticipated level of recreational activity, no significant change in existing water quality conditions is expected.

3.3.2 Aquatic Ecology

AFFECTED ENVIRONMENT

The Pickwick Reservoir section of the Tennessee River is located in the physiographic province called the Highland Rim. The Highland Rim is composed primarily of limestone and chert and some shales. Streams in this region are characterized by course chert gravel and sand substrates interspersed with bedrock areas, moderate gradients, clear waters, and moderate to low productivity, and thus, little aquatic vegetation except near spring sources (Etnier and Starnes, 1993). The land tracts involved in this proposed easement are located in the Highland Rim province and the aquatic communities exhibit the previously described substrates.

A review of TVA's Regional Natural Heritage Database indicated that no sensitive aquatic animals are known to occur within the proposed project area. Additionally, no sensitive aquatic animals were observed in aquatic habitats present on the subject tract during a site visit on July 27, 2000.

Four federally-listed mussel species are known from appropriate habitats in Pickwick Reservoir. However, none of these species are known in the Yellow Creek embayment of Pickwick Reservoir. Habitat appropriate for these mussels does not exist in the embayment because the Tennessee-Tombigbee Waterway in the Yellow Creek embayment has resulted in turbidity and siltation (TVA, 1977).

Results of four cove rotenone surveys conducted on Pickwick Reservoir in 1975 resulted in the capture of 50 species of fish (TVA Summaries of Fish Standing Stock in Tennessee Valley Reservoirs). Collection activities for Vital Signs Monitoring on Pickwick Reservoir in 1998 resulted in the capture of 22 species of fish, taken with gill

nets and electrofishing gear in the forebay area of the reservoir which includes the land transfer area (TVA, 1999b).

Based on historic and recent fisheries data collected in the area, the Yellow Creek embayment and Pickwick Reservoir apparently maintain a diverse and healthy fish community.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, existing conditions would remain virtually unchanged and the property would continue to be available for public use. At present there is evidence of some use by bank fishermen. These types of activities would not affect aquatic resources.

Adoption of Alternative B would result in construction of proposed land-based facilities and development of shoreline facilities such as boat slips and marinas. These construction activities could result in the introduction of soil or other pollutants into the reservoir unless BMPs were used to prevent this. Because TVA would require TCDF to use BMPs as described in TVA's Standard 26a Permit Conditions and would also require TCDF to maintain a 50-foot shoreline buffer (see commitments 4 and 10 in Section 6.0), potential impacts to the aquatic community would be insignificant.

Because no sensitive aquatic animals are known from within the project area, no impacts to sensitive aquatic animals are anticipated as a result of the proposed project. Cumulative impacts to aquatic resources would be insignificant and short term, restricted to construction activities on shoreline areas.

3.3.3 Wetlands

AFFECTED ENVIRONMENT

A review of the TVA Natural Heritage and wetland databases indicated the presence of forested wetlands located along the northern and southern boundaries of Tract 11. National Wetlands Inventory maps indicated wetlands along the shoreline and up the drainage areas at each end of the site. However, field investigations revealed only widely-dispersed patches of emergent wetland vegetation. The shoreline consists of chert, gravel/cobble, and sand with small patches of wetland vegetation along the shoreline indention's at both the north and south ends of the site.

ENVIRONMENTAL CONSEQUENCES

Wetlands would probably eventually expand under Alternative A due to natural sedimentation in the back of embayments and subsequent development of wetland type vegetation. Under Alternative B, facilities are not currently proposed in wetland areas and due to the widely-scattered occurrences of wetlands, there would be insignificant impacts.

3.3.4 Floodplains

AFFECTED ENVIRONMENT

The Tennessee-Tombigbee 100-year floodplain at Waterway Mile 448.4 is the area lying below elevation 419.5 feet mean sea level (msl). The 500-year, i.e., critical action,

floodplain is the area lying below elevation 419.6 feet msl. The Flood Risk Profile (FRP) is also 419.1 feet msl. The FRP is used to control flood-damageable development on TVA lands.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, none of the floodplain areas for Tracts 11 and E would be developed. Under Alternative B, TVA would transfer in fee, land above the 423-foot msl contour. A conceptual plan has been developed which includes a hotel, cabins, and a marina. For compliance with EO 11988, commercial water-use facilities are considered to be a repetitive action in the 100-year floodplain that would result in minor floodplain impacts. To ensure the proposed action would have no adverse affect on floodplains and flood control, commitments have been included in Section 6.0. TVA retains the right to flood these tracts as needed during flood control operations.

3.4 Human Environment

3.4.1 Socioeconomic Environment

AFFECTED ENVIRONMENT

The tract of land under consideration is located in Tishomingo County, Mississippi, which is in the northeast corner of the state. Tishomingo is a small, largely rural county with an estimated population in 1999 of 18,742. This estimate indicates that the county has begun to grow after a population decline during the 1980s. In 1999 the county had a labor force of 9,180, with average unemployment of 740 or 8.1 percent, notably higher than the state rate of 5.1 and the national rate of 4.2. The county is much more dependent on manufacturing than the state as a whole with 36.7 percent of its workers employed in manufacturing in 1998, compared with 17.3 percent statewide. It is less dependent on services and government, at 17.1 and 10.2 percent of the total respectively, in contrast to the state's 24.7 and 17.7 percent. Per capita personal income in 1998 stood at $16,217, about 82 percent of the state average of $19,776 and 60 percent of the national average of $27,203.

According to 1998 estimates by the U. S. Bureau of the Census, only 4.7 percent of the county's population is minority (nonwhite or white Hispanic), which is well below the state's 38.2 percent and the nation's 27.7 percent. The U. S. Bureau of the Census estimates also indicate lower poverty levels than the state with an estimated 14.8 percent of the population below the poverty level in 1995, compared to 21.4 percent statewide and 13.8 percent nationally. The land that would be involved in the proposed project is all located in Census Tract 9501 in Tishomingo County. This tract has a lower share of its population below the poverty level and a smaller percentage of minority population than does the county according to the 1990 Census of Population, which is the latest available census tract data. At that time, the census tract had 0.7 percent minority population compared to 4.0 percent countywide, and a poverty rate of 13.5 percent compared to 20.3 percent countywide.

ENVIRONMENTAL CONSEQUENCES

Socioeconomic Impacts—Under Alternative A (the No-Action Alternative), this property would remain undeveloped and would continue to be available to the public for informal recreation. Availability of these opportunities would continue to enhance the quality of life in the area. Under Alternative B, commercial recreation facilities would be developed, including a commercial marina, a restaurant, lodging, and related facilities. This development could result in positive effects on the local economy both during construction and in operation by increasing employment and income in the local area, and if properly developed, maintained, and marketed, could be an important element in the economic development of the area.

In general, well-planned and attractive recreation development would be likely to increase property values in the vicinity. However, property values could be negatively impacted if the development is allowed to become a nuisance due to adverse impacts such as excessive noise, overburdened roads, inadequate security, or poor maintenance and upkeep. Because the preliminary and final site development plans shall be subject to TVA approval and TCDF's commitment to follow TVA's Clean Marina Guidebook for ensuring properly installed, operated, and maintained facilities, the facilities should not become a nuisance. The increase in property values probably would be small, although if there should be interest in using nearby lands for additional recreation development, the value of some properties could be further enhanced.

Environmental Justice—As discussed above, the subject area has a very small minority population and a relatively low poverty rate. No residences would be directly affected by either of the proposals, and there is no indication that any of the actions would disproportionately impact disadvantaged populations. Therefore, there would be no disproportionate impacts to minority or low-income populations under either of the alternatives.

3.4.2 Land Use

AFFECTED ENVIRONMENT

Tract E (XPR 393RE) has previously been used as a roadside park by the Mississippi Department of Transportation. Recreation facilities consisted of pavilions, restrooms, and picnic areas. Tract E was not planned in the 1961 Pickwick Reservoir Plan because it was considered committed due to the fact that it was under long-term easement to the state of Mississippi. There is no zoning within Tishomingo County. Located north of the tracts is a TVA-developed subdivision with three residences within view of the proposed development. The area surrounding the tract is rural with upland forests. Directly to the south, within view, is the Yellow Creek Port Authority, a public port and industrial development. Shoreline miles for the Yellow Creek Embayment are listed by land use in Table 3.4-1.

ENVIRONMENTAL CONSEQUENCES

Adoption of Alternative A would result in no change in the current land use of the tracts. Because approximately 15 acres of Tract E had previously been developed for public recreation as a roadside park, adoption of Alternative B would result in a minor net change in land use for that tract. Under Alternative B, Tract 11 would change from its

current use of Forest and General Forest Management and Navigation, Minor Commercial Landing to Recreation. Because of the small total acreage involved (i.e., 31 acres), the adoption of Alternative B would constitute a minor and insignificant change in local land use.

Table 3.4-1 Existing Shoreline Land Use for Yellow Creek Embayment

Land Use	Shoreline Miles	Percent of Total Shoreline
Natural Resources/Public Recreation		
Retained (General Forest Management, Minor Commercial Landing, Open Space)	10.64	25.5
Transferred to State Park for Wildlife and Recreation Areas	12.91	31.0
Subtotal	**23.55**	**56.5**
Industrial		
Yellow Creek Port	3.29	7.9
TVA Yellow Creek Nuclear Plant	2.98	7.2
Subtotal	**6.27**	**15.1**
	-	
Commercial Recreation - Marinas	**0.73**	**1.8**
Residential Access - Sold	**11.09**	**26.6**
Total	**41.64**	**100**

3.4.3 Cultural/Historic Resources

AFFECTED ENVIRONMENT

The Pickwick Reservoir is located in portions of Alabama, Mississippi, and Tennessee where human occupation has been recorded for the last 10,000 years. Prehistoric land use and settlement patterns vary, but short- and long-term habitation sites are generally located on flood plains and alluvial terraces along rivers and tributaries. Specialized campsites tend to be located on older alluvial terraces and in the uplands. European interactions with Native Americans, primarily the Chickasaws, in this area began in the seventeenth and eighteenth centuries associated with the fur trading industry. The first permanent occupation of the area by Europeans, Euro-Americans, and African-Americans occurred in the late eighteenth century, with more intensive occupation occurring following secession of the various lands by the Chickasaw. Tishomingo County was formed in 1832 by the state of Mississippi following secession of the land by the Chickasaw. Agriculture was important to the county throughout the nineteenth century and into the early twentieth century. More recently, industry has increased throughout the county. The creation of the Pickwick Reservoir and the Tennessee-Tombigbee Waterway has increased tourism, recreation, and industry in the county.

Tracts 11 (XPR-460) and E (XPR-462) were surveyed for archaeological resources by the University of Alabama in the late 1980s (Meyer, 1994). Site 22TS1590 was

recorded on Tract 11 (Meyer, 1994:74), and site 22TS1589 was recorded on Tract E (Meyer, 1994:136). Both are reported to be prehistoric lithic scatters with unknown cultural affiliation. These sites were not recommended for further testing because of a lack of stratigraphic integrity (Meyer, 1994).

There are 13 historic properties and one historic district listed on the National Register of Historic Places in Tishomingo County. The majority of these properties are located in Iuka as part of the Iuka Multiple Property Survey that includes nine houses, the Church of our Savior, and the Central Iuka Historic District. The other properties include the Tishomingo State Park and Old Tishomingo County Courthouse in Tishomingo and the Bear Creek Mound and Village Site (22TS500). None of these historic properties are located near the proposed action.

ENVIRONMENTAL CONSEQUENCES

Two archaeological sites, 22TS1589 and 22TS1590, are located within the proposed easement tract. Because of a lack of stratigraphic integrity, no further work was recommended for either site by the report's author (Meyer, 1994). As such, these sites do not meet the criteria for inclusion on the National Register of Historic Places.

Under Alternatives A and B, no historic properties eligible for the National Register of Historic Places are present; therefore, no historic properties will be affected by either alternative. A copy of the draft EA was distributed to the Chickasaw Nation of Oklahoma for their review.

3.4.4 Visual Resources

AFFECTED ENVIRONMENT

Tract XPR-460RE is covered with mixed hardwoods and has an average visual character. Small coves separate it from an undeveloped part of Yellow Creek Port to the south and residential development to the north. The site is composed of two gently sloping upland areas about 50 feet above the lake, separated by a ravine averaging 35 feet deep. The land slopes steeply at the shoreline, with 6- to 8-foot eroded banks along most of it which contributes to the low scenic attractiveness. Shoreline at the south end slopes more gently and there is no erosion. The southern upland is the former roadside park site. Occasional visitors can see remaining facilities beneath the open woodland canopy, and the lake beyond. The northern portion has denser woods and no development. The scenic coherence is moderate.

The tract is visible in the foreground from a couple of homes to the north and in the middleground from homes northeast across the embayment. It is also seen in foreground and middleground views from boats. Passing motorists see the site in foreground views from State Route 25.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, the site would not be developed and the woodland landscape character would remain virtually unchanged. Vegetation would grow denser in the former park area blocking views of abandoned facilities and the lake beyond. Shoreline erosion would likely continue, thereby, increasing the exposed bank height and probably dislodging trees from the steep slopes. This would increase visual discord over time,

further reducing the scenic attractiveness and visual coherence. These changes would be seen from the same locations described above.

Under Alternative B, development similar to that shown in the concept plan would change the landscape from a mediocre wooded shoreline to a rural recreational facility. The visual character would shift from predominantly natural features to more dominant man-made alterations. Visual coherence would be reduced and scenic attractiveness would be affected. The extent of adverse visual impacts depend to a great extent on the sensitivity of final site planning and architectural design. Activities, equipment, and materials seen during the construction period would add temporary visual discord until project cleanup was complete.

Extensive tree clearing and earthwork would be required for the shoreline access, dry storage, parking, and lodge facilities. Buildings of four to six stories with rooftops seen above the skyline would cause adverse contrast and visual discord. Bright-colored buildings, dry storage, and marina facilities would create substantial adverse contrast and visual congestion when seen from the water or opposite shoreline. Large garish signage would create visual discord for any viewing point.

In order to reduce these potential visual impacts to a level of insignificance, various commitments would be included as conditions in the easement (see Section 6.0). The adverse impacts of clearing and earthwork would be substantially reduced by careful site design that protects existing tree cover on steep shoreline slopes, roadside areas, and other sensitive locations. Retained and enhanced vegetative buffers around the site would minimize the impacts seen from the lake and the road. A possible water feature near the road would enhance the scenic attractiveness for passing motorists.

Broadly horizontal buildings with rooftops below the wooded skyline would provide visual harmony with the natural landscape. A subtle scheme of natural colors (e.g., grays, darker gray-greens, and black) required in Commitment 6 (see section 6.0) would minimize the visual contrast of these buildings and be compatible with surrounding natural features. Dark roofs would provide much less contrast than very light ones when viewed against the woodland background.

Applying the same color scheme to dry storage and water use facilities would help reduce visual congestion and contrast seen from the water as well as help unify the overall visual character. Covered but open-sided boat slips with dark structural framing will help them appear transparent and further minimize shoreline contrast.

Shoreline stabilization and erosion control would improve the scenic attractiveness of waterfront areas. Bio-engineering practices would provide the most natural, visually compatible shoreline protection, but other methods may also be required.

Overall, visual impacts of development would be insignificant, provided the mitigation commitments for visual resources in Section 6.0 are incorporated.

3.4.5 Navigation

AFFECTED ENVIRONMENT

The proposed facility is located at Tennessee-Tombigbee Waterway Mile marker 448.4R on Yellow Creek embayment. Yellow Creek enters the Tennessee River on Pickwick Reservoir at Tenn-Tom Mile 450.4 and TRM 215.2L. The facility would be approximately two miles from the Tennessee River (see Figure 1). The proposed location is approximately three-fourths mile off the main navigation channel on Yellow Creek. Yellow Creek serves as the northern terminus of the Waterway which provides a navigable waterway from the Tennessee River to the Gulf of Mexico. The Waterway provides a short-cut of several hundred miles for recreational and commercial river navigation between the midwest and the Gulf of Mexico compared to using the Mississippi River.

Tract 11 was allocated for Navigation, Minor Commercial Landing in the 1981 Pickwick Reservoir Plan. No requests for minor commercial landings have been received since the Plan was adopted in 1981. The adjacent Yellow Creek Port has added an additional dock and two warehouses since 1981 for barge shipments, and the use of the tract for a minor commercial landing has not been requested. The waterfront adjacent to the tract was considered in the past for a barge fleeting area but more suitable areas with deeper water were found closer to the navigation sailing line.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, the tracts would continue to be available for use as a minor commercial landing. Thus, there would be no impact on navigation.

Under Alternative B, a grant of long-term commercial recreation easement for Tracts E and 11 is proposed. Tract 11 would not be available for a minor commercial landing. However, Yellow Creek Port, approximately 2,000 feet east of the tract, is available for barge movements. Because the Port is an existing use, it will likely continue to operate and expand as needed to provide support for future economic development in the industrial park owned by the Yellow Creek Port Authority. Conceptual plans of the proposed action include a convention center, a marina, cabin sites, and covered boat slips. Conceptually, three covered boat docks could be possible, but they should not impact commercial navigation. The commercial navigation channel, approximately three-fourths mile from the site, and barge traffic to the Yellow Creek Port, approximately 2,000 feet east of the tract, should not be adversely impacted by the proposed development. Because Tract 11 has not been utilized for navigation purposes, and because other adequate navigation facilities are available in the area, adoption of Alternative B is not expected to significantly affect navigation.

3.4.6 Recreation

AFFECTED ENVIRONMENT

Tract E has previously been licensed to the state of Mississippi for a day-use picnic area. That use has been discontinued. Most of the improvements have been removed and the area has been gated.

The preliminary proposal from TCDF includes a marina and related facilities as well as lodging and conference facilities. Nearby marinas are located on Yellow Creek embayment at mile marker 448.9R (Aqua Yacht Harbor) and mile marker 449.8R (Pickwick's Tenn-Tom Marina). Other nearby marinas are located at TRM 207.6L (Pickwick Landing State Park), TRM 220.0L (J. P. Coleman State Park), and TRM 224.8L (Eastport Marina), see Table 3.4-1. The area from Pickwick Landing State Park to Coleman State Park, including the mouth of the Tenn-Tom Waterway downstream to Aqua Yacht Harbor, is a very congested area during the summer recreation season.

Table 3.4-1 Existing Marina Facilities

Facility	Location	# Wet Slips	Fuel	Repairs	Rentals	Occupancy	Waiting List	Pump-Out
Aqua Yacht Harbor	448.9R Tenn-Tom*	500	Yes	Yes	Yes	30' Slips**	No	Yes
Pickwick's Tenn-Tom Marina	449.8R Tenn-Tom*	325	Yes	No	No	80%	No	Yes
Pickwick Landing State Resort Park	207.6L Tn. River	282	Yes	No	jon boats	100%	Yes	Yes
J. P. Coleman State Park	220.0L Tn. River	52	Gas only	No	No	100%	Yes	Yes
Eastport Marina	224.8L Tn. River	59	Yes	Yes	No	30' Slips**	No	No

* The Tennessee-Tombigbee Waterway intersects the Tennessee River at Tenn-Tom mile 450.4 and TRM 215.2L

** All slips were fully occupied except for a few 30' slips.

Public boat launching ramps are located on either side of the proposed site at Tenn-Tom Miles 448.9R and 446.8R. In addition to these existing access areas, a growing number of vessels transit this waterway on the north-south route connecting the Gulf of Mexico with the Midwest. The majority of the transiting traffic occurs in the fall and spring.

The marina is proposed for an embayment which is only partially sheltered from the Tenn-Tom Waterway. Wind and wave protection will be necessary for a marina development.

ENVIRONMENTAL CONSEQUENCES

Under the No Action Alternative, the site would remain undeveloped and available to the public for informal recreation use. There would be no change in public recreation opportunities.

Under Alternative B, a commercial public marina and related facilities would be built and maintained on the site. New marina services, including moorage, fuel, and related services would be offered to the boating public. The proposed site is over 0.75 miles from the main channel, approximately 0.5 miles from Aqua Yacht Harbor, and 2 miles from Pickwick's Tenn-Tom Marina. The area within approximately one-half mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel. This area is able to accommodate additional boating without significant impact. The main channel from Goat Island to the mouth of

Yellow Creek is congested during peak periods of weekends and holidays. It is assumed that boaters using the proposed marina would merely transit this area en route to other parts of the reservoir where they would be more dispersed.

Based upon the data contained in Table 3.4-1, there is an apparent market for additional marina facilities. The proposed new marina would likely increase boating traffic in the immediate area during the summer recreation season. A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less that 10 percent on summer weekdays. The requested action proposes a 100-slip marina. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increase number of boats would be about 33 on the busiest weekend days and less than 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. Such an increase would not constitute a significant impact. Vessel operators would have another option regarding fueling and related services. New development could be beneficial to the site in that it may minimize the vandalism that has occurred at the roadside park in the past.

The area within approximately one-half mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel based upon boating traffic counts conducted in summer 2000. Boats exiting the proposed marina are expected to transit the most heavily used area at the mouth of Yellow Creek to more dispersed areas on Pickwick Reservoir. This area is able to accommodate additional boating traffic without significant cumulative impact.

3.4.7 Transportation

AFFECTED ENVIRONMENT

The site is located approximately 12 miles north of Iuka, Mississippi, and approximately 1 mile south of the Tennessee-Mississippi state line directly off of State Route 25. Primary access to the site is via State Route 25 through Mississippi. The road becomes State Route 57 north of the state line in Hardin County, Tennessee. U. S. Highway 72 runs in an east-west direction across North Alabama and Mississippi. U. S. Highway 72 is primarily a four-lane principal divided highway. U. S. Highway 72 and State Route 25 intersect in Iuka, Mississippi. Traveling north from Iuka, State Route 25 is a four-lane divided highway for several miles. Then, the road becomes two lanes and ranges from a high to mid-quality roadway with generally good speed limits, shoulder widths, passing zones, and sight distance. The road is of fairly rolling terrain and has a curvy alignment in the vicinity of the tract under consideration. The latest available Average Daily Traffic (ADT) counts show approximately 2,800 vehicles per day on State Route 25 near the site (MDOT, 1999). There are few small businesses and residential areas located along the roadway. Some marine storage, service, and sales businesses, gasoline station, a small strip mall, and a Hampton Inn with Conference Center are located in the vicinity of the site and serve as traffic generators in the area.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, there would be a slight increase in traffic over time due to the natural residential and commercial growth of the area. Resulting effects to transportation would be insignificant.

Under Alternative B, the development of commercial recreational facilities would result in the generation of additional traffic on the adjacent roadway network. Increases in traffic may be observed near the site on the two-lane State Route 25/57. Additional traffic would likely become disbursed on adjacent roadways further from the site, and traffic increases tend to be less noticeable on major multi-lane highways, i.e., U. S. Highway 72, with higher capacity levels. Based on several field studies of existing marinas, hotels, and related facilities, estimates of additional vehicles per day due to the particular traffic generator were used to determine how existing traffic would be affected on the impacted roadway (Institute of Transportation Engineers, 1998).

The additional traffic due to the proposal would result in an increase in ADT to approximately 3,640 vehicles per day, or a 30 percent increase on State Route 25 near the site. However, this increase in traffic would not result in a change in the existing service level of State Route 25/57 and the effect would be insignificant. Also, this type of traffic is highly seasonal, and traffic increases would be lower during off-season times. The traffic flow would, though, be susceptible to sudden variations in operating speeds due to turning traffic and slow-moving vehicles, e.g., boat trailers, etc. Care should be taken in the placement of any entrance/exit roads for the recreational facility off of State Route 25. Sight distances should be sufficient to allow for safe turning maneuvers into and out of the facility. Consideration of dedicated turning lanes and intersection design should be made to assure adequate traffic conditions. To ensure the proposed action would have no adverse affect on land transportation, commitments have been included in Section 6.0.

3.4.8 Noise

AFFECTED ENVIRONMENT

The noise environment at the site is typical for a location with a multi-use waterfront and an adjacent, busy highway. This location is not a pristine or isolated wilderness area where the lack or absence of man-made noise is a recognized environmental asset. It is an existing recreational area that experiences a wide variety of noises from diverse neighboring activities.

Ambient noise at this site is dominated by traffic noise from State Route 25. This highway is the main north/south route in the area, and it is heavily used by car and truck traffic. The truck traffic consists of regional deliveries, log haulers to the nearby pulp plant, and steel roll and coil haulers from the adjacent Port of Yellow Creek. During a day-long site visit on August 18, 2000, there was never a time when truck traffic was not plainly heard.

Ambient noise at the waterfront comes from two main sources: the Port of Yellow Creek and recreational boating. The port is about 3,000 feet southeast across the water from the site and its operational noise is easily heard. Activities at the Port include transloading steel rolls and coils, petroleum, and other bulk materials. The Port also has

a steel processing facility, as well as two tow boats and four cranes available for operations. There was a high level of onsite hauling the day of the site visit. Truck and loader engine noise was constant and other noise such as vehicle backup alarms were regularly heard.

There is a high level of recreational boating along the waterfront of the site. A shoreline count produced 39 boathouses or docks visible from the picnic shelter at the site, and many of the boathouses were multi-craft structures. The slough on the northern boundary of the site has four more boathouses that are not visible from the picnic shelter. About 4,000 feet to the north is the main channel leading to the Aqua Yacht Harbor marina and residential area. Aqua Yacht Harbor is a very large marina that docks various sizes of boats. An informal boat count conducted on the day of the site visit produced more than 60 power boat activities during a six hour, mid-day period. All power boat activities within a line-of-sight from the picnic shelter were counted, including those in the channels. Although some of these boats were several thousand feet away, their engine noise was easily heard because noise is poorly attenuated when it is transmitted over water. These activities included fishermen going to their fishing locations, boats pulling skiers and floats, pontoon boats cruising the area, personal watercraft playing, and large yachts heading to the main river channel.

Environmental Consequences

There are no federal, state, or Tishomingo County environmental noise standards or regulations. TVA generally follows the Environmental Protection Agency's (EPA) guidelines by examining the potential for incremental increase in the total noise environment caused by a proposed action. The total noise environment is the sum of the existing ambient noise and the potential noise generated by the proposed action. The current ambient noise environment is primarily made up of noise from highway vehicles, Port of Yellow Creek activities, and existing recreational boats. This noise, although generally heard, would be below levels that EPA uses as a threshold. In this requested action, the potential noise emissions would be from power and recreational boating. It is estimated that the current noise level at the site of the proposed action is less than EPA's guideline of 55 dBA.

A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less that 10 percent on summer weekdays. The requested action proposes a 100-slip marina. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increased number of boats would be about 33 on the busiest weekend days and less that 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. The rest of the year these usage rates would be substantially lower. The potential noise from the small increase in recreational boating activity is similar to the noise already in the area and would not sound unusual to local residents.

The total noise in this region of Pickwick Reservoir will likely increase regardless of the decision on the requested action. There is an increase in residential development within 4,000 to 6,000 feet of the site, and the Port of Yellow Creek has room to expand.

Highway 25 will remain the major north/south route, and as the local population grows, so will the highway traffic and associated noise.

Cumulative noise impacts come from the total noise resulting from the requested or proposed action. Total noise is the sum of the current ambient or background noise and the incremental noise increase. In this case, the incremental noise increase is insignificant, especially when it is assessed over a long time period; consequently, its impact on total noise would be insignificant over a long time period also. Additionally, as discussed in the no action alternative, the presence or absence of this small marina will not stop the growth of recreational boating or other growth in the immediate area. It is very likely that the proposed marina will have no impact on the total noise in this area.

Based on the small, potential increase in recreational boating activity, the potential impact of the requested action after being added to the current ambient noise level and future noise levels from continuing regional development is expected to be insignificant.

4.0 LIST OF PREPARERS

Todd Ahlman, Resource Stewardship, Cultural Resources Program, Archaeologist

John T. Baxter, TVA Heritage Aquatic T&E Specialist

Bob Buchanan, River Operations, Program Administrator, Navigation

Joseph L. Collins, TVA Heritage Botanist

Ronnie Cornhill, Resource Stewardship, West Region Forester

James Eblen, River Operations, Economist (Contractor)

J. Bennett Graham, Resource Stewardship, Cultural Resources Program, Senior Archaeologist

Travis H. Henry, TVA Heritage Terrestrial Animal T&E Specialist

Carolyn Hunt, Resource Stewardship, Pickwick Watershed Land Information Technician

Danny Johnson, Resource Stewardship, Pickwick Watershed Team Land Use Specialist

John J. McFeters, River Systems Operations & Environment; Human Resources, Safety, Industrial Hygienist

Roger Milstead, River Operations, Technical Specialist (Floodplains)

Cherie Minghini, P. E., Fossil Engineering Services, Civil Engineer

Norris A. Nielsen, Energy Research & Technology Applications, Atmospheric Sciences, Meteorologist

Richard Pflueger, Resource Stewardship, West Region Land Use Specialist (Recreation)

Ralph Porter, Resource Stewardship, Watershed Technical Services, Senior Landscape Architect

S. Berry Stalcup, Resource Stewardship, West Region, Aquatic Biologist

Helen Rucker, Resource Stewardship, West Region Environmental Scientist

5.0 LIST OF AGENCIES AND PERSONS CONSULTED

State and Federal Agencies

Mississippi Department of Archives and History
Mississippi Department of Environmental Quality
Mississippi Department of Wildlife, Fisheries, and Parks
Mississippi State Clearinghouse
Northeast Mississippi Planning and Development District
U. S. Army Corps of Engineers, Nashville District
U. S. Department of Interior, Washington D. C.
U. S. Fish and Wildlife Service, Cookeville, Tennessee
The Chickasaw Nation of Oklahoma

Individuals and Organizations

State Representative Ricky Cummings
Iuka, Mississippi 38852

Dale Price
Iuka, Mississippi 38852

Matt Buck
Iuka, Mississippi 38852

J.C. Kennedy
Memphis, Tennessee 38118-3332

Charlotte Orick, Executive Officer
Burnsville, Mississippi 38833

Alvia Blakney, Chairman
Tishomingo County Development
Foundation
Iuka, Mississippi 38852

Richard O. Clark
Iuka, Mississippi 38852

E. Glennan Grady
Corinth, Mississippi 38834

Richard Warriner, D.D.S.
Tupelo, Mississippi 38801

Vincent & Marsha Marascuilo
Cordova, Tennessee 38018

John D. Lichterman
Memphis, Tennessee 38132

Jonathan Lafferty
Memphis, Tennessee 38117

Sherolyn Ayers
Iuka, Mississippi 38852

Jay Paul McDonald
Iuka, Mississippi 38852

Mary Ben Heflin
Memphis, Tennessee 38111

Susan K. Davis
Memphis, Tennessee 38127

Robert H. Krauch, Jr.
Pickwick Dam, Tennessee 38365

Jeff, Heather, and Conlin King
Arlington, Tennessee 38002-7452

Carolyn & Sam Ronk
Alamo, Tennessee 38001

Betsy & Robert C. Thorton
Alamo, Tennessee 38001

H.L. "Sandy" Williams, Jr.
Corinth, Mississippi 38835

Robert J. Fratesi
Memphis, Tennessee 38119

Michael and Deborah Alexander
Germantown, Tennessee 38138

Kathy Thompson
Memphis, Tennessee 38118

Richard S. Hollis, M.D.
Amory, Mississippi 38821-9106

John J. Heflin, III
Memphis, Tennessee 38819

The Tennessee Conservation League
Mike Butler
Nashville, Tennessee

6.0 COMMITMENTS

The following conditions and commitments will be incorporated as conditions in the easement agreement between TVA and the Tishomingo County Development Foundation in order to reduce the potential for adverse environmental effects.

1. Any future facilities or equipment subject to flood damage shall be located above or floodproofed to the TVA Flood Risk Profile elevation 419.6 feet msl.
2. All future development shall be consistent with the requirements of TVA's Flood Control Storage Loss Guideline.
3. The applicant shall be required, through deed restrictions, to maintain a 50-foot undisturbed buffer to be managed as a shoreline management zone.
4. Undisturbed forested buffers at least 50-feet wide shall be maintained and enhanced around the site with 100-foot minimum width along the cove at the north end. Minimum openings are acceptable for water access on the south end.
5. Buildings shall not exceed three stories above grade and shall use natural materials to the extent practical. Roofs shall not extend above the wooded skyline when seen from the lake.
6. The architectural color scheme shall be visually compatible with natural background colors and shall provide dark roofs on all structures. The color scheme applies to the lodge, cabins, dry storage, water use facilities, and miscellaneous structures. It also applies to the signage where a compatible contrasting color may be added for message readability.
7. No enclosed boathouses are permitted and covered boat slips shall be open on all sides. Roofs and the structural framing shall be a dark selection from the color scheme.
8. Shoreline stabilization and erosion control shall use bio-engineering methods to the extent practical and other applicable methods as required.
9. Preliminary and final site development plans shall be reviewed by TVA and are subject to TVA approval.
10. Employ and implement all appropriate construction BMPs. These BMPs include:
    a) Removal of vegetation will be minimized, particularly any woody vegetation providing shoreline/streambank stabilization.
    b) Installation of cofferdams and/or silt control structures between construction areas and surface waters prior to any soil-disturbing construction activity. Clarification of all water that accumulates behind these devices must meet state water quality criteria at the stream mile where activity occurs before it is returned to the unaffected portion of the stream. Cofferdams must be used wherever construction activity is at or below water elevation.

c) Must keep equipment out of the reservoir or stream and off reservoir or stream banks to the extent practicable (i.e., performing work "in the dry").

d) Must avoid contact of wet concrete with the stream or reservoir and avoid disposing of concrete washings, or other substances or materials, in those waters.

e) Must agree to use erosion control structures around any material stockpile areas.

f) Must agree to apply clean/shaken riprap or shot rock (where needed at water/bank interface) over a water permeable/soil impermeable fabric or geotextile and in such a manner as to avoid stream sedimentation or disturbance, or that any rock used for cover and stabilization shall be large enough to prevent washout and provide good aquatic habitat.

g) Must agree to remove, redistribute, and stabilize (with vegetation) all sediment which accumulates behind cofferdams or silt control structures.

h) Must agree to use vegetation (versus riprap) wherever practicable and sustainable to stabilize streambank, shorelines, and adjacent areas. These areas will be stabilized as soon as practicable, using either an appropriate seed mixture that includes an annual (quick cover) as well as one or two perennial legumes and one or two perennial grasses, or sod. In winter or summer, this will require initial planting of a quick cover annual only to be followed by subsequent establishment of the perennials. Seed and soil will be protected as appropriate with erosion control netting and/or mulch and provided adequate moisture. Streambank and shoreline areas will also be permanently stabilized with native woody plants to include trees wherever practicable and sustainable (this vegetative prescription may be altered if dictated by geologic condition or landowner requirements). Must also agree to install or perform additional erosion control structure/techniques deemed necessary by TVA.

11. Use only EPA registered chemicals (i.e., pesticides, including herbicides) in accordance with label directions.

12. Properly handle, store, and dispose of any and all waste materials.

13. To ensure that safe traffic conditions are met in this vicinity, TVA shall review site development plans for the placement of entrance/exit roads off of State Route 25 to allow adequate sight distances for safe turning maneuvers into and out of the facility.

14. All requests for proposals from developers will require that the proposals follow TVA's Clean Marina Guidebook for ensuring properly installed, operated, and maintained facilities. Additionally, guidelines will be established to ensure proper and complete usage of sewage disposal by occupants of the marina.

15. TVA will require that all sewage pump-out facilities and appurtenances have spill-proof connections, failure alarms, and no overflow piping. TVA will require that underground storage tanks containing regulated substances such as petroleum products have secondary containment, anchorage to prevent floating during

flooding, and a spill prevention, control, and countermeasures plan. Above ground storage tanks be required to be installed and maintained in compliance with applicable AST requirements.

7.0 REFERENCES

Etnier, D. R., and W. C. Starnes. 1993. The Fishes of Tennessee. University of Tennessee Press, Knoxville. 681 pp.

Institute of Transportation Engineers. 1998. Trip Generation. 6th Edition. Washington: Institute of Transportation Engineers

Meyer, C. C. 1994. Cultural Resources in the Pickwick Reservoir. Report on file, Tennessee Valley Authority, Cultural Resources Group, Norris, Tennessee.

MDOT (Mississippi Department of Transportation). 1999. *Average Daily Traffic* Report.

Tennessee Valley Authority. 1977. Yellow Creek Nuclear Plant Units 1 and 2 Environmental Report.

Tennessee Valley Authority. 1998. Shoreline Management Initiative (SMI): An Assessment of Residential Shoreline Development Impacts in the Tennessee Valley. Land Management, Norris, Tennessee.

Tennessee Valley Authority. 1999a. Shoreline Management Policy (SMP). Resource Stewardship. Norris, Tennessee.

Tennessee Valley Authority. 1999b. Aquatic ecological health determinations for TVA reservoirs-1998, An informal summary of 1998 vital signs monitoring results and ecological health determination methods.

Tennessee Valley Authority. 2000. Draft Environmental Assessment: Savannah Harbour at Southwest Point, Proposed Marina, Commercial Recreation License and 26a Permit. Resource Stewardship. Lenoir City, Tennessee.

Walthall, J. A. 1980. Prehistoric Indians of the Southeast: Archaeology of Alabama and the Middle South. University of Alabama Press, Tuscaloosa.

APPENDICES

Appendix A - Letters received from State and Federal Agencies and Organizations

Mississippi Department of Archives and History

Historic Preservation Division • Post Office Box 571 • Jackson, Mississippi 39205-0571
Phone 601/359-6940 • Fax 601/359-6955

August 3, 2000

Mr. J. Bennett Graham
Senior Archaeologist
Tennessee Valley Authority
Post Office Box 1589
Norris, Tennessee 37828-1589

Dear Mr. Graham:

RE: TVA—Proposed Long-Term Lease for Commercial Recreation, Pickwick Reservoir, Tishomingo County

We have reviewed your July 14, 2000, cultural resources assessment request for the above referenced project proposal in accordance with our responsibilities outlined in 36 CFR 800.4 and 800.5 regarding the identification of historic properties and assessment of any potential adverse effects. We concur that Sites 22TS1590 and 22TS1589 are ineligible for listing in the National Register of Historic Places. It is our determination that no other properties listed in or eligible for listing in the National Register of Historic Places will be affected. Therefore, we have no reservations with the proposal.

In addition, we are not aware of any potential of this undertaking to affect Indian cultural or religious sites. However, the tribal entities must be contacted directly for confirmation of this.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. If we can be of further assistance, please do not hesitate to contact this office.

Sincerely,

Elbert R. Hilliard
State Historic Preservation Officer

Thomas H. Waggener

By: Thomas H. Waggener
Review and Compliance Officer

cc: Clearinghouse for Federal Programs

Appendix B - Comments received from Review of Draft Environmental Assessment

Letters Received from State and Federal Agencies

Final Environmental Assessment

United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

October 19, 2000

Mr. Jon M. Loney
Manager, NEPA Administration
Environmental Policy and Planning
Tennessee Valley Authority
400 West Summit Hill Drive Knoxville,
Tennessee 37902-1499

Dear Mr. Loney:

Thank you for your correspondence of September 21, 2000, transmitting a copy of the Draft Environmental Assessment - Request For Commercial Recreation Easement For Tishomingo County Development Foundation, Pickwick Reservoir, Tishomingo County, Mississippi. The Fish and Wildlife Service (Service) has reviewed the document and offers the following comments.

USPWS -1 The environmental assessment adequately describes the resources within the project area and the proposed actions' impact on these resources. With the amount of commercial development proposed, it appears that area flora, fauna, water quality, and aesthetics could receive significant adverse cumulative impacts. Therefore, the environmental assessment does not adequately support the Finding of No Significant Impact. The Service supports Alternative A: No Action, and believes it will protect fish and wildlife resources while continuing to provide recreational opportunities in the area.

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information which we have provided, please contact Wally Brines of my staff at 931/528-6481, extension 222.

Sincerely,

Lee A. Barclay Ph.D.
Field Supervisor

40

Final Environmental Assessment

NASHVILLE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1070
NASHVILLE, TENNESSEE 37202-1070

Project Planning Branch

Mr. Jon M. Loney
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, TN 37902-1499

Dear Mr. Loney:

Thank you for the opportunity to review the Draft Environmental Assessment (EA): Request for Commercial Recreation Easement for Tishomingo County Development Foundation, Pickwick Reservoir, Tishomingo County, Mississippi.

There are several points within the document that need to be addressed:

USACE - 1 — Section 1.6, Necessary Federal Permits or Licenses: Section 10 of the Rivers and Harbors Act of 1899 should be cited as an applicable Department of Army (DA) regulatory authority.

USACE - 2 — Section 2.3, Comparison of Alternatives: The intent of the sentence, "There would be no change in public recreation..." is not clear.

USACE - 3 — Section 3.3.3, Environmental Consequences: EA should also state that facility development would be subject to DA regulatory authorities pursuant to Section 404 and Section 10.

USACE - 4 — Section 3.3.4, Environmental Consequences: The second paragraph refers to the "concept plan." If such a plan is available, a copy should be included in the document.

USACE - 5 — Section 3.4.5, navigation- heavy boat traffic and wave-induced erosion have been the source of many complaints during the past several years. Requests have been made for the imposition of no-wake zones in the embayment. We recommend that

41

this issue be discussed in the EA in light of the additional boat traffic that would probably be generated by the proposed marina.

Thanks for the opportunity to participate in your planning process. If you have any questions concerning these comments, please feel free to contact Mr. Brian Canada at (615) 736-7666.

Sincerely,

Stephen W. Eli, P. E.
Chief, Project Planning Branch

Response to Agency Comments

USFWS - 1

Response: Additional analysis on cumulative impacts have been incorporated to the final EA sections on Flora, Fauna, Air Quality, Water Quality, Aquatic Ecology, Recreation, Noise, and Socioeconomics. TVA believes this additional analysis provides sufficient information to conclude that the impacts are insignificant.

USACE - 1

Response: Revisions have been made to the final EA.

USACE - 2

Response: Under the No Action Alternative, no change is proposed to the land use of the tracts. Therefore, there would be no change in the current public recreational opportunities afforded by the existing condition and use of the tracts.

USACE - 3

Response: The text has been revised. All necessary Federal permits or licenses are noted in Section 1.6.

USACE - 4

Response: The conceptual plan referred to in section 3.3.4 was generated by TVA staff and is a very abstract plan view of the site similar to an artist's rendition and was used for general analysis purposes only. The intent of this conceptual plan view was to determine the site's feasibility (from a space standpoint) to accommodate the proposed facilities and necessary infrastructure within the 31 acres. It was not included in the DEA because TVA did not want to create any perceptions that it was a formal and/or approved plan. A conceptual drawing is included in section 1.1.

USACE - 5

Response: Section 3.4.6 addresses impacts associated with additional recreational boating traffic that could be added to the reservoir. The requested action proposes a 100-slip marina. The area within approximately a one-half mile radius from the proposed marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel based upon boating traffic counts conducted in summer 2000. Boats exiting the proposed marina are expected to transit the most heavily used area at the mouth of Yellow Creek to more dispersed areas on Pickwick Reservoir. This area is able to accommodate additional boating traffic without significant cumulative impact.

A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less than 10 percent on summer weekdays. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increase number of boats would be about 33 on the busiest weekend days and less that 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. Such an increase would not constitute a significant impact within the Yellow Creek Embayment.

A no-wake zone would be considered necessary around the perimeter of the marina. Due to the length, width, and lack of congestion in the immediate embayment of the proposed marina, and the ability of the area to accommodate additional boating traffic without significant cumulative impacts, additional no-wake zones within Yellow Creek Embayment are not considered necessary at this time.

Granted, any additional boat traffic in the area will increase wave action and shoreline erosion, but this potential impact from this facility would be insignificant when compared to existing boat storage facilities in the area.

the Chickasaw Nation HEADQUARTERS
Arlington at Mississippi / Box 1548 / Ada, OK 74821-1548 / (580) 436-2603

Bill Anoatubby
Governor

Jefferson Keel
Lieutenant
Governor

November 16, 2000

Mr. Jon Loney, Manager
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, TN 37902-1499

Dear Mr. Loney,

In response to your letter regarding proposed construction, we are not aware at this time of any culturally sensitive or sacred sites in or near the project area for the recreation easement in Tishomingo County, MS. However, please understand that this construction project could lead to the uncovering of such sites. We would therefore expect that any inadvertent discoveries would be brought to our attention immediately, and that all construction would cease according to all applicable federal laws.

Your sensitivity to these issues is appreciated. If you have any questions, please contact Mrs. Rena Duncan, director of cultural resources, at (580) 332-8685.

Sincerely,

Jefferson Keel, Lt. Governor
The Chickasaw Nation

NATIVE VOTE
Putting Our Vote to Work!

CAW 6-26-07

Issues Identified from Individuals and Organizations and Responses

Boat Congestion

- However, we must not overlook the negative concerns such as more traffic on the lake in an already congested area with very limited Police Control for the large number of boats on the lake. *Comment By: Douglas C. Mayhall*
- As you well know, the two existing marinas in Yellow Creek and boat ramp at the State Line create massive boat congestion. *Comment By: Louis F. Allen*
- ...this development would negatively impact Yellow Creek. There are currently over 1500 boat slips within less that a mile of the proposed new marina. This area is vastly over-crowded given the current level of development. *Comment By: Jon H. Hill, W. Hull Davis*

Response: The proposed site is over 0.75 miles from the main channel, approximately 0.5 miles from Aqua Yacht Harbor, and 2 miles from Pickwick's Tenn-Tom Marina. The area within approximately a one-half mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel. This area is able to accommodate additional boating without significant impact. The main channel from Goat Island to the mouth of Yellow Creek is congested during peak periods of weekends and holidays. It is assumed that boaters using the proposed marina would merely transit this area en route to other parts of the reservoir where they would be more dispersed.

Water Quality

- The largest concern should be the protection of our water quality. Living across from Aqua Yacht Marina, I see, on a daily basis, how this marina affects the quality of water in this area. *Comment By: Douglas C. Mayhall*
- the water quality is suffering now. *Comment By: Jon H. Hill, W. Hull Davis*

Response: According to the 1998 TVA Vital Signs Monitoring Results, overall ecological conditions in Pickwick Reservoir are good. Most indicators used to evaluate ecological conditions rated good or fair at all locations. Fecal coliform samples collected at 10 locations in the reservoir (including one location in the Yellow Creek embayment) were within the state water quality criteria. A screening level assessment of water quality conditions at three locations in the Yellow Creek embayment was conducted monthly from July through September 1999. All three sites were highly productive and could be considered eutrophic as indicated by high chlorophyll concentrations (averages from 14 to 21 ug/L). Nutrient levels in the embayment were similar to those found throughout Pickwick Reservoir. Mean embayment values were 0.4 mg/L for total nitrogen; 0.04 mg/L for total phosphorus; and 3.2 mg/L for total organic carbon. Two of the three Yellow Creek sites had dissolved oxygen concentrations below 5.0 mg/L at deeper strata in at least one of the months sampled. None of the sites had dissolved oxygen concentrations less than the state criteria of 5.0 mg/L at the 1.5 m depth. Water temperatures did not vary much from top to bottom

indicating minimal stratification. All sites had temperatures exceeding 30 °C at most depths during July.

The TCDF has made a commitment to TVA to develop a state-of-the-art marina that is a demonstration for the surrounding area on proper marina stewardship. All requests for proposals from developers will require that the proposals follow TVA's Clean Marina Guidebook for ensuring properly installed, operated, and maintained facilities. Additionally, guidelines will be established to ensure proper and complete usage of sewage disposal by occupants of the marina.

Therefore, no long-term adverse impacts to water quality are expected, provided the new facilities are properly installed, operated and maintained. All waste and wastewaters must be contained and disposed of, so as to avoid adding pollutants to the lake. In the event the facilities are not operated as defined in the regulatory permits, corrective actions will be required.

Erosion

- Also, as you know, the wake created by the excessive boat traffic is causing the existing shoreline and islands in the Yellow Creek area to erode. In fact, there are two islands in Yellow Creek now where one is completely eroded and it is just a matter of time for the other. *Comment By: Louis F. Allen*

Response: Granted, any additional boat traffic in the area will increase wave action and shoreline erosion, but this facility will be insignificant when compared to existing boat storage facilities in the area. Results of the following data indicated the increased boat traffic would have insignificant cumulative impact on erosion in the area.

A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less than 10 percent on summer weekdays. The requested action proposed a 100-slip marina. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increased number of boats would be about 33 on the busiest weekend days and less than 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. The rest of the year these usage rates would be substantially lower.

Too much development (land) already

- The current development on Pickwick Lake appears to be out of control... Additionally, this use would mean there would be less undeveloped land in an area that is overdeveloped now. *Comment By: Jon H. Hill, W. Hull Davis*

Response: The Yellow Creek Embayment consists of 41.64 miles of shoreline. 11.1 miles (26.6 percent) is managed for residential development, 6.3 miles (15.1 percent) is managed for industrial development for Yellow Creek Port and Yellow Creek Nuclear Plant site, and 0.7 miles (less than two percent) is managed for recreational use as marinas. The proposed development by TCDF

would add 0.6 miles of shoreline to recreational use, increasing the percent of recreation to three percent. 12.9 miles of shoreline have been transferred to the states of Mississippi and Tennessee to manage for wildlife and public recreation areas. Development along this shoreline consists of three public use areas (launching ramps). No additional development of this shoreline is currently proposed in the long-range plan for either state park. The remaining shoreline (10.6 miles) is retained TVA land and is managed for natural resources. As a result, 56.5 percent of the shoreline in the Yellow Creek Embayment is managed by TVA and state parks for general forest management, wildlife, and recreation areas.

Weakening of the Reservoir Planning Process

- The League is concerned that proposals such as the TCDF proposal work to undermine the integrity of the reservoir planning process. The Pickwick Reservoir Plan was developed in 1981. Since that time the TVA Board of Directors has approved several incremental changes in land use designations, which we believe weaken the results of reservoir land management plans.
  It is our understanding that the Pickwick plan was not created under the direction of the National Environmental Policy Act (NEPA). Keeping in mind, that it has been nearly 20 years since this first plan was finished, the League strongly believes that it is time to revise the Pickwick Reservoir Land Management Plan under the guidelines developed in NEPA before further changes in land use designations. *Comment By: Tennessee Conservation League*

  Response: According to our records, there have been 17 board actions on Pickwick Reservoir since the Pickwick Reservoir Plan was adopted in 1981. Six of these were for the Yellow Creek Port area which did not include modifications to land use allocations to the Reservoir Plan. Additional actions were for State Park activities, sewer line easements, etc., which also did not include modifications to land use allocations to the Reservoir Plan. Our records indicate that this is the first Board Action requesting a land use change to the Pickwick Reservoir Plan. The Pickwick Reservoir Plan "is a decision making tool that will help to guide and expedite TVA's handling of requests for the use of its lands and allow the Agency to better meet its responsibilities as a public agency and land manager. It is not a rigid 'master plan'...It is intended that this plan remain flexible, that it be continually weighed and adjusted as land management decisions are made and as growth pressures, economic trends, and environmental conditions and standards change in the future" (TVA, 1981). Additionally, the Pickwick Reservoir Land Management Plan is one of the next TVA reservoir plans to be updated.

Public Opposition to the Project

- While the EA states in Section 1.3.1 that the "majority of comments received at the public meeting were in support of the project", a quick glance at the Appendix B of the EA shows that nearly 2/3rds (i.e., 60%) of scoping respondents were opposed to the project. The League feels this opposition is significant, and is not fairly presented in the EA. *Comment By: Tennessee Conservation League*

Response: Section 1.3 has been revised to more accurately reflect the comments received in opposition to the proposal.

Permanent Loss of Public Access and Recreational Opportunity

- The TCDF proposal will result in a loss of public lands available for informal recreation and non-fee related outdoor activities. In the EA, TVA notes that bank fishing is an existing use of the area. Further, this area of Yellow Creek is heavily developed with lakefront houses that have existed for more than 20 years. Undeveloped public shorelines are not prevalent, and are not as easily accessible to the public as this site could be.
  Additionally, in this EA, TVA makes repeated reference to facility vandalism that has occurred at the roadside park (the parcel which was "quick claim" deeded to TVA from the Mississippi DOT). Comments in the EA also suggest that TVA believes, if this proposal is approved and completed that vandalism will be reduced.
  The League acknowledges that the completion of such a project would reduce vandalism in the project area. However, TVA admits to abandoning the roadside park (Section 3.4.6) upon receiving the property from MDOT. The League believes there are other, less intrusive ways of preventing vandalism. *Comment By: Tennessee Conservation League*

Response: Because portions of this land were already considered transferred for a roadside park and the other portion is a narrow strip of forest (totaling 15.5 acres) between Mississippi State Route 25 and the water, TVA does not believe that there would be a significant loss of public lands for informal recreation as a result of this proposal.

Lack of an Assessment of Cumulative Impacts

- As mentioned in several previous League comments to TVA regarding similar projects, we do not believe that an adequate or meaningful assessment of the cumulative impacts of the disposition of small parcels of public land to non-public uses has been undertaken.
  Specifically, the National Environmental Policy Act of 1969 requires cumulative impacts assessments. The TCDF proposal EA does not address any cumulative impacts to water, wildlife, forests, air, or other resource values that will be affected by this proposal, and that have been affected in recent years by similar proposals.
  Comment By: Tennessee Conservation League

Response: Additional information has been added to the EA in sections on Flora, Fauna, Air Quality, Water Quality, Aquatic Ecology, Recreation, Noise, and Socioeconomics. This also attempts to address the concerns of FWS in the October 19, 2000, letter on cumulative impacts to these resources.

Lack of Adequate Data in EA

- In general, there is a significant lack of data provided or used in this particular Environmental Assessment (EA). The following is an itemized list of specific examples:
  1. In Section 2.3, TVA states that the preferred Alternative B will have no significant impacts on boat traffic. This EA provides no data for current boat traffic levels, provides no assessment of potential carrying capacity of boat

traffic, and does not provide a reasonable analysis of the impacts of boat traffic resulting from this project. Furthermore, the EA recognizes boat traffic and congestion as the number one issue raised by EA respondents. Boat traffic and congestion has greatly increased on Yellow Creek over the past 15 years. This is an area that League staff have frequented since the early 1980's. Research on boat congestion, including consultation with the Tennessee Wildlife Resources Boating Division, should occur before this proposal is revisited. *Comment By: Tennessee Conservation League*

Response: Additional information has been added to the EA. TWRA was not consulted because this project is located in the State of Mississippi. A copy of the Draft EA was distributed to the Mississippi Department of Wildlife, Fisheries, and Parks. No comments were received from the Department.

2. The EA assumes that this project will have no significant impacts on water quality. In this light, the EA does admit to the real potential for negative water quality impacts, unless development guidelines are followed (see Section 3.3.1). The EA points out that this area contains steep terrain that poses concerns for activities that could negatively impact water quality. The League is concerned that TVA offers no data on the current water quality of the Yellow Creek embayment. We find it difficult to accept a suggestion of no significant impacts to water quality when no data are given on the current conditions and potential conditions resulting from the project. Several other marinas are located in the immediate vicinity to this proposed site. Data on water quality near and around these areas can be obtained. For these reasons, the League asks that TVA better assess the current and potential water quality conditions and impacts before revisiting this proposal. Lastly, TVA offers no monitoring proposal to insure that the project applicant will meet the development standards put forth in the EA. *Comment By: Tennessee Conservation League*

   Response: Additional information on water quality has been added to the EA. TCDF has committed to using the Clean Marina Guidebook in the development and maintenance of these facilities. Additionally, federal and state regulations are in place that require monitoring during construction and operation of these facilities.

3. Additionally, Section 2.3 TVA states that Alternative B will have no impact on ambient noise levels. Again, there are no data or research cited in the determination of this position. Noise levels, in terms of decibels, can easily be measured at this time, and some basic analysis of noise impacts can be derived. *Comment By: Tennessee Conservation League*

   Response: The FEA states there will be insignificant impacts to ambient noise levels. Section 3.4.8 provides the analysis that the potential noise from the recreational boating activity will not be significant and, therefore, we see no need to do ambient monitoring to come to this conclusion for this EA. The purposes of establishing pre-action, background noise

levels are two-fold; first, for possible modeling or predicting the impact of the new noise source, and second, for determining post-action impact. In both cases, statistically-representative, background noise levels are needed for meaningful comparisons. Representative noise monitoring usually means 6 to 12 field surveys over a year's period, or 3 to 4 surveys over a shorter time period in question. This would be followed-up by post-action noise monitoring to verify the modeling prediction or for impact determination. Modeling is not possible for this proposed action because of the episodic noise generated by power boats, and post-action impact determination is not possible either because of the other area growth that is occurring.

4. Similar to the points raised regarding boat traffic and congestion, TVA does not provide adequate analysis or data regarding impacts to automobile use resulting from the proposed project. *Comment By: Tennessee Conservation League*

   Response: Section 3.4.7 provides analysis and data for the potential impacts associated with vehicle use. The additional traffic due to the proposal would result in an increase in ADT to approximately 3,640 vehicles per day, or a 30 percent increase on State Route 25 near the site. However, this increase in traffic would not result in a change in the existing service level of State Route 25/57 and the effect would be insignificant. To ensure the proposed action would have no adverse affect on land transportation, commitments have been included in Section 6.0.

5. The analysis given within the EA regarding wildlife habitat and threatened and endangered habitat is flawed. The EA shows that (Section 2.3.) there would be a loss of habitat for state listed wildlife species.
   In addition, the EA assumes that impacts to local wildlife are not significant (Section 3.2.3) because of the health of wildlife populations around the project site. TVA offers no data regarding the status of wildlife, threatened, endangered, or abundant. Additionally, no reasonable assessment of wildlife or aquatic habitat is made near or outside the project area. Thus, impacts to wildlife resulting from this proposal are at best unknown and most likely negative. *Comment By: Tennessee Conservation League*

   Response: Sections 2.3 and 3.2.2 of the EA have been revised and additional language has been added.

Questionable Economic Benefits and Need for an Additional Marina

- In Section 3.4.1, TVA writes that this project proposal will have little economic benefit at the county level. Additionally, the EA states that there is no waiting list at nearby Aqua Yacht Harbor for boat slips and other services.
  After examining this information, we are under the impression that there is no compelling economic reason for TVA to grant a change in land use designation and significant cause for concern about negative impacts to water quality, traffic congestion and noise pollution. *Comment By: Tennessee Conservation League*

Response: Additional information has to been added to the final EA clarifying the data in Table 3.4-1 on waiting lists. Clarification of data indicates that all slips were fully occupied at Aqua Yacht Harbor and Eastport Marina except for a few 30-foot slips. This data was collected in the summer of 2000. The statement that the proposal would have little economic benefit at the county level was written to reflect only the immediate direct impacts on employment and income, and also prior to full knowledge of the extent of the plans, especially regarding the marketing efforts planned for the lodging and restaurant components. In light of its potential as a catalyst for development in the area, the statement has been revised to recognize this longer term potential.

Conclusion

- The League DOES NOT SUPPORT this project, given the conflicting statements in and failure to address cumulative impacts in the draft EA. If TVA wishes to move forward with this land use change, the League will reconsider its position upon seeing the following additional information:
    1. Additional data collected and analyzed to meet all Federal criteria, including cumulative impacts.
    2. Revision to the proposal that will result in a no-net-loss of public lands available for informal recreation and natural resource purposes.

    Response: Text has been added in the EA to address these concerns. Because portions of this land were already considered transferred for a roadside park and the other portion is a narrow strip of forest (totaling 15.5 acres) between Mississippi State Route 25 and the water, TVA does not believe that there would be a significant loss of public lands for informal recreation as a result of this proposal. Accordingly, TVA does not plan to require a "no net loss" proposal.

Individuals and Organizations Providing Comments

Douglas C. Mayhall
Counce, Tennessee

Louis F. Allen
Memphis, Tennessee

Jon H. Hill
Corinth, Mississippi

W. Hull Davis
Tishomingo County, Mississippi

Mike Butler, Tennessee Conservation League
Nashville, Tennessee

Jefferson Keel, Lt. Governor
The Chickasaw Nation

APPENDIX C – APPLICANT RESPONSE TO PUBLIC COMMENTS RECEIVED FROM PN NO. 05-87-A

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Pickwick Pines

Pickwick-Wheeler Watershed Team	
ALA	JGP
JKA	RLP
WB	AMP
CLC	DJS
BGF	JDS
SAH	SJS
CJH	HLT
KRK	SEW
WRM	
RLM	
SDM	
RJM	Files
Received:	

Nashville District Corps of Engineers
Regulatory Branch
Attn: Kathleen J. Kuna
3701 Bell Road
Nashville, TN. 37214

RE: Responses to comments
Application # 2005-020282

Dear Ms. Kuna:

"Increase in boat traffic".

With 132 of the 228 slips proposed being slips over 30', I do not believe that boat traffic will be greatly increased. Statistics show that large boats are used less than 5% of the time. On a typical summer weekend there would probably be less than 40 boats leave a 228 slip marina. To me this is not a large increase in boat traffic.

"Too crowded already".

The overcrowding of the Yellow Creek area is caused by the increase each year in trailer boats being unloaded at the two ramps close by. The proposed marina should not have a great impact on overcrowding in the area. Unlike smaller watercraft that go and come frequently to the restaurants and fuel docks each day, the larger craft tend to go out of the area at least for all day and usually for all weekend.

"Safety / accidents".

Statistics show that larger boats are the least likely to be involved in accidents. The operators of these boats are usually more educated on proper boating techniques and have a much larger investment to consider. Most marina operators will educate and advise slip holders if they see safety concerns or unsafe boating practices. To operate a boat safely in the confined spaces of a marina usually will make the boater safer on the open water.

11 Ashley Avenue ~ Iuka, MS 38852 ~ 800-559-7463 ~ www.pickwickpinesresort.com

"Get rich quick scheme".

I do not fully understand the meaning of this concern. By scheme it sounds as if the commenter believes that we will take advantage of customers in some way. This is far from the truth. If it is meant that they believe this project was developed just for this developer to "get rich" then they have not researched to know that this has been ongoing for almost six years. This was offered three separate times for proposals to be submitted. Each time specific criteria was offered with public meetings advertised and held to discuss the project. Several investors considered the project but none committed until Mr. McMeans in 2005. Though we certainly hope to be profitable, we do not expect to "get rich quick".

"Too many no-wake zones".

This proposed marina will extend lake ward less than 800' and with the shoreline 1300'. This area is not on or close to a channel to either the Tennessee River or the Tenn-Tom Waterway. For this reason I do not feel that the limited amount of no-wake this marina will have should impact boaters in any way.

"Loss of public shoreline".

In 2002, TVA zoned this entire shoreline as recreational development. With 500 miles of shoreline on Pickwick Lake I feel that the loss of this 1300' is insignificant. There is considerably more shoreline lost each year for private boathouses and community docks than by commercial marinas.

"Damaging boat wakes to private property".

Again I point out that most large boats in marinas are less likely to cause damage because they are more aware of the consequences. They are typically more educated on proper boat handling and having their own boat in the water full time they are very aware of what damage boat wakes can cause.

"Decrease in available open water".

There is more than 43,000 acres of water on Pickwick Lake and Yellow Creek. The embayment where this project is located has approximately 385 acres. The proposed marina will occupy about 22 acres or less than 6% of this embayment. This is not a significant loss for Pickwick Lake.

"Loss of best ski and water sports area".

With less than 6% of this embayment being occupied by the marina limits, there is still ample area for water activity. This is one of two large embayment on Yellow Creek. The second is less than ½ mile south and known as the Goat Island/Elks Landing area. It is comparable in size and depth. This allows plenty of deep water in the Yellow Creek area for fishing, skiing, tubing etc.

"No survey of concerns of Yellow Creek Property Owners".

This project was first considered in 1999 when the day park closed and a suitable use of this TVA property was discussed. Since then there have been public meetings held and much discussion on this issue by all agencies and homeowners. In 2000 a "Finding of Non-Significant Impact" was prepared and distributed. I believe that the homeowners concerns have always been considered in this issue by all parties.

"Noise pollution"

Excess noise would be as much a problem for marina slip holders as for adjacent homeowners. Because of this, our policy is to have a quiet time starting and 10:00 pm each day and continuing until 8:00am. With 24 hour security to enforce this policy and to monitor excess noise during the day, increased noise should not be a problem.

"Water quality / pollution".

This marina will be built to TVA "Clean Marina" standards. In addition, all slips over 30' will have in slip pump-out available. This should encourage compliance of our no-discharge rules. All other aspects of the site will be closely monitored by TVA and MDEQ. Proper fueling techniques and spill prevention procedures will be practiced daily along with fuel spill containment in the event of an accident.

"Loss of wildlife habitat – fish / fowl".

Fish tend to congregate around marinas so I do not think that this will constitute a loss of fish habitat. Since this was used for many years as a roadside park, deer, wild turkey and most other wildlife do not frequent this site. There is still an abundance of squirrel, beaver, waterfowl and an occasional eagle at the site, however by maintaining the landscape as close to natural as possible I believe these will remain.

"No need for another marina".

There are currently three marinas south of Pickwick Dam to this site. This is a portion of the connecting waterway from Chicago and the upper Mississippi River region to Mobile that is considered a must stop for travelers and a favorite location for full time boaters. All three of the existing marinas are at or near 100% occupancy and many slips have a waiting list. At the current time I have 75 slips spoken for. Many of these are redistribution from the other marinas but the demand for slips in this area is growing daily. Most marinas from Kentucky Dam to the Gulf Of Mexico are experiencing more demand especially with recent hurricanes along the coast.

"Existing marinas not full".

As stated above, the existing marinas in the area are full or very close to full. Grand Harbor Marina was completed in 1999 with 325 slips and reached full occupancy in 2004. The marina at Pickwick Landing State Park has been full for several years. Aqua Yacht Harbor is considered full since they try to maintain a certain number of available slips for winter storage customers. During the heavy transit season in the fall, between 1100 and 1500 boats pass this location. During this time there is not enough transit space available.

Thank you for allowing me the opportunity to respond.

Sincerely,

Rodney D. Lucas
General Manager
Pickwick Pines Marina, Inc.

APPENDIX D – DOLPHIN LOCATION AND DETAIL

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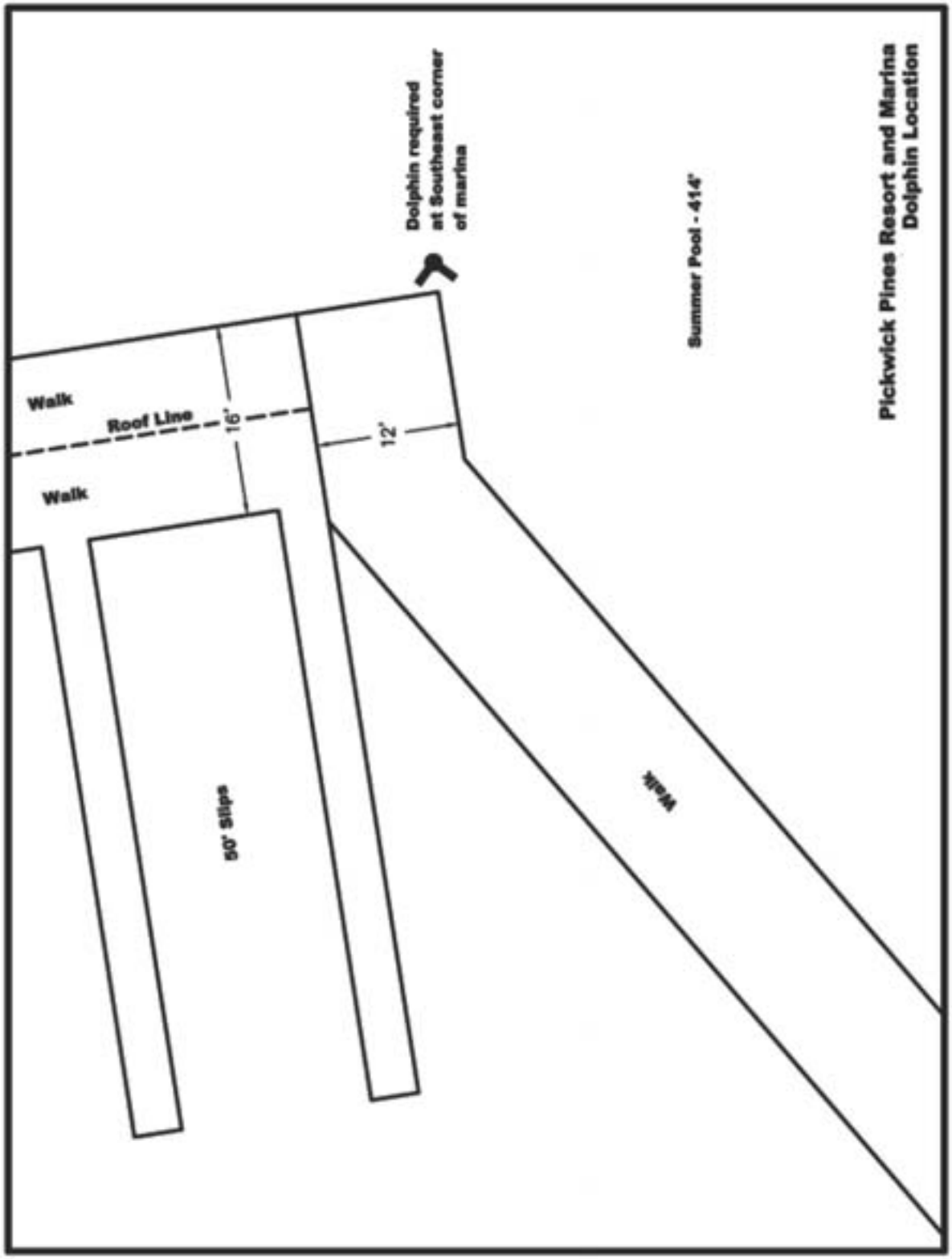

Figure D-1. Dolphin Location

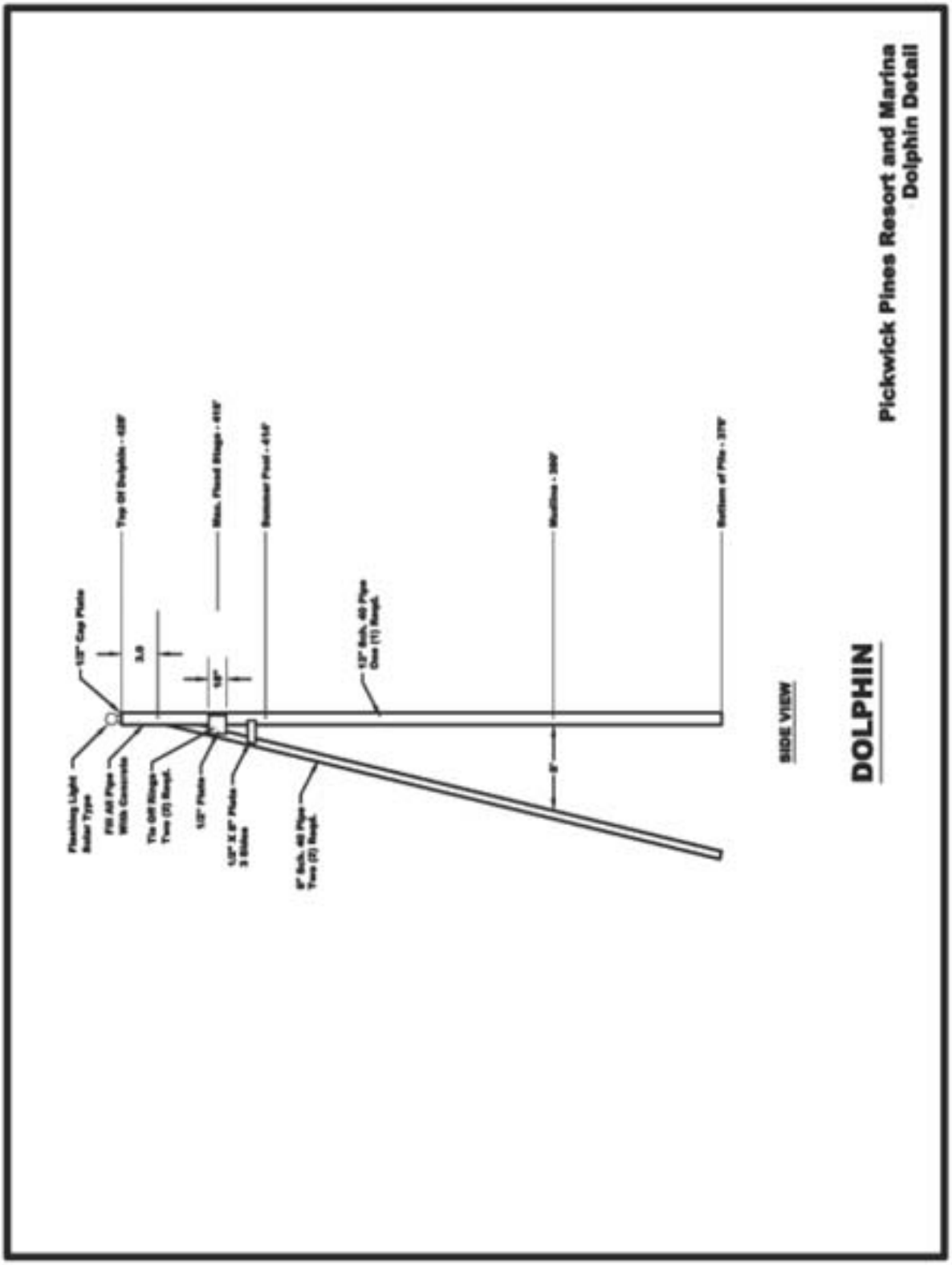

Figure D-2. Dolphin Detail